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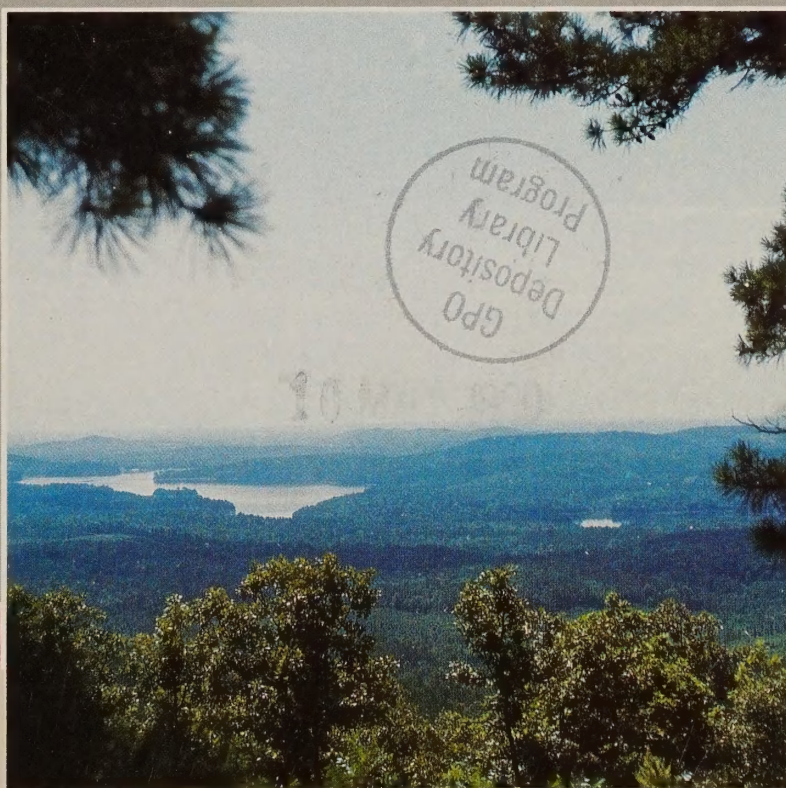
United States
Department of
Agriculture

Forest Service
Southern Region



Final Environmental Impact Statement **VEGETATION MANAGEMENT** in the Ozark/Ouachita Mountains

COMMENT LETTERS AND RESPONSES **VOLUME III**



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COMMENT LETTERS AND RESPONSES

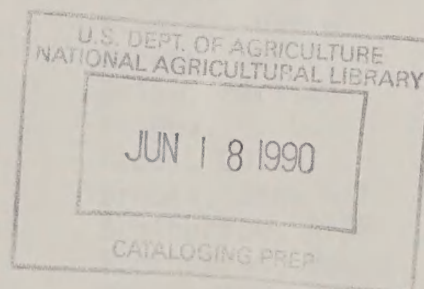
This volume contains complete copies of comment letters received about the Draft EIS, and Forest Service responses to them. Comments were received from 816 persons, groups, and agencies. Volume I, chapter VI, discusses these comments and the public involvement process.

Each letter is numbered in the order in which it was received. This number is in the top right corner of the letter. In the letter, substantive comments are numbered in the left margin. Forest Service responses are located next to the letter (on the right half of the page) and are numbered to correspond to specific comments.

Since many comments are similar, responses sometime refer to another letter where that comment has already been addressed. References to pages of text specify the Draft EIS or the Final EIS. References to sections do not, since these are the same in both versions.

If no response is included for a specific letter number, the comment was a form letter identical to letter number 69, 180, 336, 340, 342 or 351. They are answered only once.

Many comments were very incisive and prompted changes in the Final EIS. As a result, some led us to modify alternative F by reducing the percentage of broadcast application methods used. Others led us to evaluate other alternatives that were in the range of all alternatives. Some led us to strengthen mitigation measures in chapter II. Others led to editorial improvements, as in the description of alternatives early in chapter II and in the economics section of chapter IV. Such changes are explicitly mentioned in our responses to the applicable comments.



LIST OF DRAFT
EIS COMMENTERS

This section is an alphabetical list of people and organizations who commented on the Draft EIS.

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Environmental Health Center, Dallas, TX	659
Family Garden Nursery, Pettigrew, AR	244
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Department of Transportation Federal Highway Admin., Baton Rouge, LA; Columbia, SC; Fort Worth, TX	004 Columbia 010 Baton Rouge 037 Fort Worth
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Mena Nature Club, Mena, AR	459
Newton County Wildlife Assn., Jasper, AR	637
North Woods Outdoors Club, Fayetteville, AR	128
Oklahoma Wild Turkey Federation, Edmond, OK	299
Ouachita Watch League, Hot Springs, AR	633
Ozark Organic Growers Association, Parthenon, AR	144
Public Awareness Comm., Inc., Fort Smith, AR	262
Sierra Club, Oklahoma Chapter, Norman, OK	510
Trout Unlimited, Huntersville, NC; Vienna, VA	026 Huntersville
Tulsa Audubon Society, Tulsa, OK	483

State and Local Government - Arkansas

Dept. of Health, Little Rock	732
Dept. of Pollution Control & Ecology, Little Rock	065
Geological Commission, Little Rock	732
Historic Preservation Prog., Little Rock	301
Soil & Water Conservation Comm., Little Rock	732
State Clearing House, Little Rock	732

State and Local Government - Tennessee

Division of Forestry, Nashville	033
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Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 I think you have done an adequate analysis

Why? Because you spent a lot of time & did several alternatives.

Comments on Alternatives:

Your's alternatives do respond to my concern.

2 Why? Because you had several ones to look at & decide from. I like the one that is Redwood alternative F-

Other:

I am out in the National Forest a lot and see lots of work that is not. I think the Forest Service is doing a good job.

(use additional sheets as necessary)

To return, this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
 DON RUSSELL SUMMERS (Johnson County)
 CLARKSVILLE
 72930
 Street
 LAUREL AR. 72846
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 1

From: Don Russell Summers

Comment No.

Response

1 The Interdisciplinary Team is pleased that you found the analysis adequate.

2 Your preference for alternative F was included in the content analysis for all comments received.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The analyses were, by far, the most thorough and complete in any draft EIS I've had the opportunity to review pertaining to the National Forests in Arkansas.

Why? The composition of the interdisciplinary team deserves much credit for their efforts in assessing the many facets of the EIS and the manner in which the project was prepared, particularly the discussions of each situation/option.

Comments on Alternatives: I concur in Alternative F.

Why? This is the best trade-off for selection and, in my opinion, best addresses the objections myself and others here have raised over present policies on vegetation management.

Other: I am also pleased with the consideration given to improvement of wildlife habitat and stream protection.

Why? Simply because not too much has been done in these areas in the past. (Incidentally I own property within the Ozark National Forest and have, for several years, observed first-hand the management practices of the Forest Service.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Robert L. Jones
Robert L. Jones

Name: First MI Last (Organization)
2216 Broadway Avenue
Sireel Conway, Arkansas 72032
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 2

From: Robert L. Jones

Comment No. Response

- 1 The Interdisciplinary Team is pleased that the commenter found the analysis thorough and complete.
- 2 Your preference for alternative F was included in the content analysis for all comments received.

3

240 Pearl St
Marianna, AR 72360

U. S. Forest Service
Atlanta

Dear Sirs and Madams,

Please don't allow herbicides
to be used in our National Forests.

I agree emphatically that the
growth of marijuana must
be stopped, some how, but -

THERE HAS TO BE A BETTER WAY!

So many of our young men are
jobless; perhaps - volunteers
for clearing it out by hand.

When our under ground streams
are poisoned - and that will happen
if enough poison is used - what -
will we drink? Margaret Triplett

6-26-85

Response to Comments in Letter No. 3

From: Margaret Triplett

Comment No.

Response

- 1 The Draft EIS does not address treatment of marijuana with herbicides. Activities addressed are shown on pages I-4 through 6 of the Draft EIS.
- 2 Appendix C discloses research results and discusses potentials for groundwater contamination. Appendix A has further discussions. Additionally, chapter IV, part G describes effects on groundwater from all methods including herbicides. Potential herbicide concentrations in groundwater are given on page IV-104 of the Draft EIS. The discussion shows that, by applying herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

U. S. D. C Forest Service
Atlanta

Dear Madam,

One more protest to you about the management of our National and State forests! The trees belong to ^{the} us and many others who are outraged that our Conservation and environmental agencies are so carelessly allowing destructive practices so freely.

Let the lumber companies and paper mills buy land - plant pines and firs - but in any way they want to. It is being said that you are selling logs from the public lands cheaper than the cost of production which in turn discourages re-cycling of paper + other wood products. This has hurt our efforts to cut down garbage dumps by saving newspapers, etc. for recycling.

Garbage is burying us! Please stop this! Cut only selected trees when the thinning would help the growth of surrounding standing ones, or none at all from our public lands, please.

Yours faithfully

Morgan Sipelett

Oct 31, 1989
240 Pearl St. Marianna, AR
72360



U.S. Department of Transportation
Federal Highway Administration

South Carolina Division Office

1835 Assembly Street
Suite 758
Columbia, South Carolina 29201

June 27, 1989

IN REPLY REFER TO
HA-SC

Mr. Steve McCorquodale
Team Leader
U. S. Forest Service
1720 Peachtree Rd., NW, Rm. 362 South
Atlanta, Georgia 30367-9102

Dear Mr. McCorquodale:

1 Subject: Vegetation Management Environmental Impact Statement
We have received the Draft Environmental Impact Statement concerning vegetation management on national forests of the Ozark/Ouachita Mountains in Arkansas and Oklahoma. We feel that this issue has no impacts on the Federal-aid Highway Program in South Carolina and have no comments to offer on the document.

Sincerely yours,

Robert A. Probst
Robert A. Probst
Division Administrator

Response to Comments in Letter No. 4

From: Robert Probst

Comment No. Response

1 Comment noted.

Alternative D

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns? Yes!

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

I support alternative D because of the effect of herbicide on human health. Ground water can become toxic when herbicide water into it. Why? I feel that fire (prescribed fire) does a much better job at a cheaper cost. With the use of herbicide ~~is~~ eliminated and other increased use of other methods, the forest will be in a more natural state and at the same time will still be producing at current ~~high~~ levels.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Doug W. Sanders (Organization)
96 Neal
Street Greenwood Ark 72936
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 5

From: Doug W. Sanders

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.
Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
2 As shown in table IV-18 of the Draft EIS, prescribed fire has a per-acre cost substantially below other treatment methods. It is inappropriate however, to assume that prescribed fire could or should be used to accomplish all vegetation management objectives. For example, it is difficult to be selective (such as needed for release) when using prescribed fire. Additionally, spatial constraints limit possible use of fire for such things as rights-of-way or trail corridor maintenance. Lastly, prescribed fire often will not produce the desired effect over time (efficacy) requiring repeat treatments.

stop clear cuttings
stop using herbicides

Alternative D.

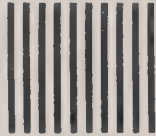
1. herbicides have ill effects on human health.
2. Forest still produces at current levels

USDA FOREST SERVICE
 1720 PEACHTREE RD., N.W.
 ATLANTA, GA 30367

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 ATLANTA, GA 30367

DRAFT O O
 Attention Rm. 362S





DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

6

Centers for Disease Control
Atlanta GA 30333

July 6, 1989

Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Georgia 30367

Dear Steve:

Thank you for sending the Draft Environmental Impact Statement (DEIS) for the Vegetation Management in the Ozark/Ouachita Mountains for our review. We will provide review comments on behalf of the U.S. Public Health Service. To add additional perspective, I have (by copy of this letter) requested a review by our representative in the Food and Drug Administration. Will you kindly send an additional review copy of the DEIS to:

Mr. John Matheson
FDA HFV 162
Parklawn Bldg. Room 880
5600 Fishers Lane
Rockville, MD 20857

Best wishes for continued success in your program of developing excellent documents describing your efforts to control vegetation in our National Forest areas.

Sincerely yours,

David E. Clapp, Ph.D., P.E., CIH
Environmental Health Scientist
Center for Environmental Health
and Injury Control

cc. J. Mattheson, FDA



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

6

Centers for Disease Control
Atlanta GA 30333

October 2, 1989

Steve McCorquodale
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

Thank you for sending the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains. We are responding on behalf of the U.S. Public Health Service. Technical assistance for this review was provided by Dr. Sanford S. Lefingwell, Center for Environmental Health and Injury Control, Centers for Disease Control.

We have reviewed the document with a particular attention to human health effects and the risk analysis methods. This EIS is generally quite well done, and the comments below should not be taken as evidence of serious defects.

1. The analysis of risks stops short of being complete. It appears as though the authors expect the greatest concern to come from groups opposed to use of chemical herbicides and that they have consequently gone to considerable effort to assure the public that these risks are small. That is probably true, but workers in particular may experience higher risks as a consequence of the selection of Alternative F, which "... increases the use of manual methods, and increases prescribed fire, though decreases its intensity." (Volume I, page iii).

What would be helpful is an analysis which calculates the expected number of deaths, for the general public and for workers, under each of the alternatives. The calculation should include all causes which result from the activity. The calculation should be based either on maximum likelihood estimators for all risks or, if 95% upper confidence limits are used for one risk, then the same multiplication factor must be used for each risk. (See discussion of "conservative" below.) These "bottom line" numbers should be compared for each alternative, in order to assure that the trading of risks is reasonable.

In order to perform these calculations, better information would be needed on the probability of events and on the probability of adverse health effects as a consequence of each event. On page A-5-10, paragraph 3, for example, statements such as "...the probability that people would receive the doses projected here is quite low" should be supported with a statement of the probability, if there are sufficient data to estimate the probability, or by some rationale for the statement if a probability cannot be estimated.

Response to Comments in Letter No. 6

From: Dept of Health & Human Services, Centers for Disease Control

Comment No.

Response

1. We agree. The Council on Environmental Quality Regulations require that the analysis concentrate on significant issues and summarize others. We also discovered that the data base for occupational injuries in forestry was scant, amounting almost entirely to our own experience.

2. "Conservative," as it is used throughout this document, is a misleading word and concept. Our concern is that the term means different things in different contexts. A scientist publishing findings is "conservative" when he or she underestimates risk. When estimating risk, it is usually considered "conservative" to overestimate risk.

Cancer risks are usually based on a 95% upper confidence estimate of the dose-response slope. They are a worst-case estimate, not a maximum likelihood estimate. This results in a deliberate overestimation of risk; the less that is known, the greater will be the degree of overestimation. Comparison of an overestimated risk with a risk from physical injury, which is more accurately known, may lead to errors in decision making. One might select an alternative that avoids a cancer risk that is not, in fact, present but increases a real risk of physical injury. In other words, this may result in avoiding the risk you don't know much about and may not conserve health. The attached article, "The Perils of Prudence," is provided to further explain this topic.

3. On page I-6, paragraphs 6 and 7, an explanation of the origin of the term "release" would be helpful.

4. Better identification of the chemicals would be helpful. e.g., Fosamine, ammonium ethyl carbamoylphosphonate; Glyphosate, N-(phosphonomethyl)glycine, CAS 1-71-83-6; Hexazinone, 3 cyclohexyl-6-(dimethylamino)-1-methyl-s-triazine-2,4(1H,3H)dione, CAS 51235-04-2; Picloram, 3-amino-3,5,6-trichloro picolinic acid, CAS 1918-02-1 etc.

5. On page IV-7, paragraph 7, the NOEL is the largest dose of a chemical which can be administered to test animals without causing an observable effect. "Observable effect" does not equal "visible effect." The definition offered on page A-3-6, paragraph 5, is stated better.

6. On page IV-14, paragraph 1, the accidental exposures may need to be given in mg/kg, not in mg/kg-day. An accidental exposure to diesel fuel of 1020 mg/kg/day implies either a single exposure to 1020 mg*(body weight in kg)*(number of days of employment) or daily exposure to an average of 1020 mg*(body weight in kg) every day of employment. A similar concern arises with respect to the tables on pages A-4-69 to A-4-84. The doses for accidents appear to be in mg/kg once--they would not really be in mg/kg-day.

2. We have used the term "conservative" to mean we overestimated risk.

3. Release is a technical term familiar to most foresters. We define release in the Glossary.

4. Our EIS is intended for a broad audience with widely varying levels of expertise, therefore we generally have taken the middle ground when using technical terms.

5. We agree, and have changed visible to observable.

6. The suggested change has been made. Review of the discussion of accidents in section 4 of the Risk Assessment confirms that analysis was performed on single exposure but that the inaccuracy in terminology results from an incompleteness in tables 4-25 through 4-40. Both human accident scenarios in these tables should also be noted as mg/kg exposure, not mg/kg/day.

7. On page IV-27, I think the total for the "Range" column should be 0.358, and on page IV-28, I think the totals for the "Range" and "Trails and Recreation Maintenance" columns are inconsistent with the data; probably there are missing entries in the table.
8. On page A-2-12, paragraph 3, we must assume there is a respirator fit testing and maintenance program in place, as well as proper screening of workers for respirator use and a program to assure compliance. While it is not necessary to incorporate the entire US Forest Service Safety Manual into this document, the EIS should include sufficient information to assure the reader that these issues are routinely taken care of in the field. A similar question arises on page A-5-37, paragraphs 2 and 3; are wash facilities routinely provided at sites where workers might inadvertently be exposed? Are clothing changes available at those sites? On page A-5-36, paragraph 8, what administrative controls are in place to assure that these maximum exposures do not occur chronically? Would a worker inadvertently soaked in a herbicide solution be transferred to other duties for a period of days? Each of these are important mitigation measures.
9. On page A-3-4, paragraph 6, rats and mice may be similar to humans in the ways they handle some chemicals, but it is not true for many others and therefore it is not generally true that they are similar to humans. Either delete the last phrase of the sentence or qualify it.
10. On page A-3-10, paragraph 4, the statement "These [peripheral neuropathy] effects have not been produced in laboratory animals" appears somewhat misleading, based on the information which follows. Rodents are resistant to at least some peripheral neuropathies. Organophosphates are customarily tested for neuropathic potential in white leg-horn chickens. Is there any evidence that rodents and dogs are adequate models for 2,4-D? That failing, is there enough information about the human exposures to estimate a lowest effective dose for humans?
11. On pages A-5-49 to 51, the discussion does not address the meaning of the term hypersensitivity as it is used by "clinical ecologists." We would agree that the omission is prudent and scientifically defensible. The clinical ecology movement is, however, one which generates great enthusiasm among its advocates. If others should challenge the omission, or if the authors think it wisest to try to preempt a challenge, the attached recent article and editorial in the *Annals of Internal Medicine*, 1989 July 15;111(2):104-106, 168-178, would be a basis for defense.

Thank you for sending this document for our review. Please insure that we are included on your mailing list to receive future EIS's.

Sincerely yours,

Kenneth W. Holt
 Kenneth W. Holt, M.S.E.H.
 Environmental Health Scientist
 Center for Environmental Health
 and Injury Control

7 We agree, and have changed the total to 0.358.

8 Program description in appendix A is there solely to orient the reader to the basic Forest Service program. The referenced statement on page A-2-12 refers only to labels and not to specific mitigations. Mitigations are discussed in chapter II of the Draft EIS. See page II-55 for mitigations required to protect workers involved in herbicide projects.

Note that the EIS is not a field operations manual. Site-specific environmental analysis will determine project level specific requirements.

9 We agree with the fact that a variety of analogues would best describe the variety of potential human responses. The statement as a generalization and as modified by the subsequent two sentences recognizes that rats and mice are neither the perfect analog for all information, or were they used as such. Where better information from different analogs was available, it was used.

10 In searching the available toxicological literature on 2,4-D, the Forest Service did not find any evidence that either supports or questions the advisability of using laboratory mammals as subjects for 2,4-D peripheral neuropathy testing. The Goldstein et al. study to which the text refers summarizes three cases in which humans received exposures such as a spill of several liters onto exposed skin or prolonged dermal exposure to clothing wetted with the herbicide. Because these were poisoning incidents rather than controlled laboratory studies, it was not possible to accurately quantify the doses received in these cases. Further, Hayes (1982, Pesticides studied in man, p. 525) indicates that there was "no valid toxicological or epidemiological evidence...to support a causal relationship" in these cases. Therefore, these incidents could not be used to determine a human lowest effect level.

11 As suggested in the comment, we have chosen to defer discussion of hypersensitivity in the sense of "clinical ecology." Thanks for the reference material; it may come in very handy at a later date.

805 Skyline Drive
Russellville, Arkansas 72801

June 26, 1989

U.S. Forest Service
Atlanta Georgia

Dear Sir,

I believe in a herbicide free
National Forest. Control of vegetation
and pests can be done by hand or
mechanical means or by using natural
biological controls. I don't know how
to control the marijuana growth, there
must be some way to control the grower.
But I'd give you the lesser evil of
pot to the greater poison of herbicide.

Remember what we were told about the
horrible herbicide used in Vietnam.
Ask any V.A. Hospital employees
about the effects of Agent Orange.
Sincerely
Laura Rogers

Response to Comments in Letter No. 7

From: Laura Rogers

Comment No.

Response

- 1 The analysis in the Draft EIS discloses that all methods and tools as proposed can be done effectively and in an environmentally sound manner if the mitigation measures on pages II-38-59 of the Draft EIS are applied. The needs of each vegetation management project must be assessed independently and the most appropriate tool selected. In some situations manual or mechanical tools would be more appropriate but in other cases, such as where resprouting or noxious plants exist, then a herbicide treatment with a carefully selected herbicide may be more appropriate.
- 2 The treatment of marijuana with herbicides was not addressed in the Draft EIS. Please see pages I-4-6 of the Draft EIS for activities addressed.

Dear Guardians of the Forests -

1 Please keep herbicides out of our precious forests and allow all the recommendations of C.W.L.

Please stand strong and don't succumb to selfish interests.

Thank you. Shirley Freeman



Response to Comments in Letter No. 8

From: Dr. Shirley V. Freeman

Comment No.

Response

- 1 Your preference for methods which do not use herbicides was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: This Environmental Impact Statement seems carefully done. It shows careful consideration of the vegetation management issues, and does not gloss over the hard issues. It is a lot of research well gathered and presented.

Why?

Comments on Alternatives: These represent a good range of options. The discussion of herbicide use is thorough, but uncertainty about long-term effects confirms my belief that they should not be used. To counter the dangers of why mechanical control to workers, more attention should be given to safety education and safety equipment.

The discussion of fire is very good. Controlled burning seems a good policy if it is carefully and knowledgeably done.

Other: The issue of logging methods is not addressed much in this statement. Rules and enforcement of rules that minimize erosion and disruption of natural systems are important.

Why? In all, I would favor Alternative A, with modifications using controlled burning and mechanical control of vegetation as needed for the safety of those living, working and visiting in the forests.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
John Hillbrand
HC 32, Box 31

City State Zip Code
Bass Arkansas 72612

Tear at perforation

Response to Comments in Letter No. 2

From: John Hillbrand

Comment No.

Response

- 1 The Interdisciplinary Team is pleased that the commenter felt the EIS was carefully done and addressed the major issues.
2 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
Logging methods are more appropriately discussed in individual Forest and Land Resource Management Plans. Also see response to Letter No. 33.
3 Your preference for alternative A with modifications was included in the content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

No Comments

Why?

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Federal Hwy Administration
Name: First MI Last (Organization)
PO Box 3929
Baton Rouge, LA 70821
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 10

From: Federal Highway Administration

Comment No.

Response

1 Comment noted.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives: I FAVOR ADOPTION OF ALTERNATIVE "D" PRIMARILY BECAUSE I AM TOTALLY OPPOSED TO THE USE OF HERBICIDES.

Why?

Other: I AM COMPLETELY OPPOSED TO CLEARCUTTING IN OUR NATURAL FORESTS.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

DAVID L. GILL
Name: First MI Last (Organization)
2807 KIMBERLEA
Street
MUSKOGEE, OK. 74403
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 11

From: David L. Gill

Comment No.

Response

1

Your preference for alternative D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.

Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2

The issues of clearcutting are addressed in each individual Forest Land and Resource Management Plan and are not within the scope of the Vegetation Management EIS. Please see pages I-4-6 for activities addressed and page I-12 of the Draft EIS for unrelated comments.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 **Comments on Scientific Analysis:** Please use no herbicides on our forests. Please use no clear cutting. Please do not change the mix of the natural forest.
Why? Herbicides endanger the water. We treasure our oaks, dogwood, Redbud and so do our visitors. Clear cutting endangers the streams and looks like World War III.
- 2 **Comments on Alternatives:**
A (no action)
Why? If ^{more} Pine plantations are needed. Sell the land which is suitable to a Lumber Co. Gov. employees should not be in the lumber business.
Other:
- 3 **Why?**
Forest service should be protecting ~~protecting~~ our forests for all to enjoy. If we have too much land, sell to reduce the deficit.

To return, this comment sheet, fold and staple with USDA Forest Service address affixed and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Ann T. Wilson Haystack Hikers
 Street 112 Saxony Cir
 City Hot Springs, AR State AR Zip Code 71901

Tear at perforation

Response to Comments in Letter No. 12

From: Ann T. Wilson

Comment No. _____ Response

- 1 Your preference for methods which do not use herbicides was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.
- 2 The issues of clearcutting are addressed in each Individual Forest Land and Resource Management Plan and are not within the scope of the Vegetation Management EIS. Please see Page I-4-6 for activities addressed and page I-12 for unrelated comments.
- 3 Your preference for alternative A was included in the content analysis for all comments received. For effects of alternative A please see pages IV-130 and 131 of the Draft EIS. Many of the effects by lack of vegetation management that occur to wildlife, threatened and endangered species, and safety prevent Forest Land and Resource Management goals to be attained.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:
 Thank you for putting this in summary form. Working through the Drafts on the Ouachita National Forest was a real nightmare. I have selected AIT "P" as my preferred alternative in the Ouachita N.F. Management Plan, that alternative will require the use of herbicides & fire.

Comments on Alternatives: I would choose AIT "H" as my preferred alternative. I think as we need to look to the National forests in our areas to provide long term timber production, more hardwood control may be. Hardwood Why? To enhance pine production. Most of the low pine timber provides jobs and money to countries. Grow more of it so more can be harvested. Be reasonable and use common sense; don't destroy hardwood stands, don't try to convert rough mountain side brush into pine. Use herbicides & fire in mixed stands where hardwood and pine compete. Leave significant streamside alone. Try to sell (or give away) hardwood in mixed stands if you're going to kill it anyway.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Thank you

Name: Michael Beck
 First MI Last (Organization)
519 W 9th
 Street
Boonville, OR 97007
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 13

From: Michael Burk

Comment No. _____ Response

1 Your preference for alternative H was included in the content analysis of all comments received. Your comments regarding the Draft Supplement to the Ouachita National Forest Land and Resource Management Plan were forwarded to the Supervisor of the Ouachita National Forest.

July 25, 1989.
Response.

1 I support the U.S. Forest Service choice of alternative F in the Draft EIS. The National Forest is an important part of the Arkansas economy not only in direct and indirect employment but also in tax receipts for local schools.

Forest Management Plans should be written on a basis of solid scientific knowledge, not on the worries and guesses of extremist environmentalists that would rather see the National Forests as huge parks or wilderness areas for their own selfish enjoyment.

At a recent Sierra Club meeting that I attended, a leader of the club was quoted as saying, "... if we can stop the clearcutting as part of this forest management plan, that will be just one more step toward our eventual goal, to get the Forest Service out of our National Forests".

Clearcutting, herbicide use, prescribed burning, and mechanical methods should all be considered on tracts of timber where these methods will best assist with the development of the managed forest. All of these methods have their place in forest management and they will not hurt, and may enhance wildlife population when used correctly.

All forms of timber harvest, selection cuts, intermediate thins, shelterwood harvest, seed tree harvest, and clearcuts should be available to the Forest Service as alternatives in management.

Anyone who does not believe that the Forest Service had done well in the fields of wildlife and forest management should ask older area residents how much timber and wildlife was present in the Ozarks and Ouachita's back in the 1920's, 1930's, and 1940's.

Richard Stich

Richard Stich
Route 11, Box 358,
Fayetteville, Arkansas 72703

Response to Comments in Letter No. 14

From: Richard Stich

Comment No. Response

1 Your preference for alternative F was included in the content analysis of all comments received.

Corning Wildlife Association

"Devoted to Wildlife Conservation"
Corning, Arkansas

July 29, 1989

USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Ga. 30367

Re: Vegetation Management-Ozark/Ouachita Mountains

Gentlemen: Thank you for the draft environmental impact statements concerning vegetation management in the national forests in Arkansas.

I have studied these statements and found them very thorough. Admittedly, I found some parts thereof quite technical and difficult to comprehend with my limited knowledge of the subject.

I am reasonably familiar with the Ozark and St. Francis areas of these forests, but have had limited contacts with the Ouachita portion.

We assume that methods of management of U.S. forest lands have been mandated and that, therefore, some methods must be adopted. The first impression of our organization was to favor Plan A, that is, permit nature to largely take its course in our federal lands. Of the other plans, perhaps Plan B or F would be preferable, taking into account our concern about wildlife resources.

We get the impression that the larger portion of all plans is the production and harvest of pine timber. Pine timber is a rather poor source of food for wildlife; and we feel that much emphasis should be placed on hardwood production. Too, we are not enthused about clear-cutting of woodlands.

While I have observed that fire if properly used and controlled, has some good effects for wildlife but that it can be injurious to hardwood trees. We are still skeptical about the potential bad effects of the use of herbicides. Too, in the application of any Plan, we insist that a good number of old den trees should be spared and protected.

At page II-42 of the Statement, sub-paragraph (11), appears reference to a protective corridor to be left along streams to prevent channel erosion and preserve water quality. It is stated there that a filter strip of vegetation at least five (5) wide is to be left. We deem this entirely inadequate. In our view a filter strip from 150 to 200 feet should be left for this purpose. Referring to page II-56, sub-paragraph (19), of the Statement, we believe that a protective area for non-target areas (including deontrees) should be much larger than 30 feet.

Good luck in the execution of any plan ultimately adopted.
Respectfully,
Bryan J. McCallien, President.

Response to Comments in Letter No. 15

From: Bryan J. McCallien

Comment No.	Response
1	Your preference for alternative B or F was included in the content analysis of all comments received.
2	Issues such as clearcutting and what species to manage were addressed in the Forest Land and Resource Management Plans for each Forest. Please see pages I-1 and I-2, item 2 of the Draft EIS for activities addressed.
3	We too have concerns if prescribed fire is not used properly. Mitigation measures 3 and 4 on page II-47 of the Draft EIS are required to prevent damage to hardwoods while prescribed burning. Mitigation measures 1-32 on pages II-52-59 of the Draft EIS are required to minimize adverse effects when using herbicide methods.
4	The referenced mitigation is intended to prevent excess channel and stream bank erosion and is in addition to filter strips required in item 9, page II-48 and item 8 on page II-52 of the Draft EIS. In such cases 30 feet plus 1.5 times the percent slopes is the minimum. On steep slopes, say 70 percent, the minimum distance would be (70x1.5=30) 135 feet. Since only low-moderate prescribed burns and low intensity mechanical equipment are used these required filter strip protections should be adequate.
5	In most situations a 30-foot distance from the drip-line of tree canopy should be adequate because of the required lower application rates and selective herbicide treatments, and types of herbicides allowed. If field tests identify the distance to be inadequate then they will be increased because the intent is to protect non-target plants such as den trees. In the Final EIS we are increasing our reliance on selective herbicide application methods which affords even greater protection to non-targets.

Dear Sir:

I am commenting on Vegetation management in the Ogark / Ouachita mountains.

- 1 There are still too many herbicides being used & too many hardwood trees being replaced by pines.
- 2 Cutting our hardwood & putting back doesn't make sense. Pine is cheap. There are too many on the forest service payroll. There isn't that much work to be done in Ogark forest.

If the forest needs cleaning up, under brush & so on, Burn it off here & there ever few years. Stop creating so many jobs that the Tax Payers cannot afford.

Thank You
Jolene & Polly Humphrey

Polly & Jolene Humphrey
Box 97
Pelsor, Ark. 72856

Response to Comments in Letter No. 16

From: Polly & Jolene Humphrey

Comment No.

Response

- 1 In the Final EIS only 7 out of 11 herbicides that were previously available and used are allowed. These are lowest risks to humans, wildlife, and the environment. General mitigation measures 1-4 on pages II-38-40 and specific mitigation measures for herbicides, pages II-52-59 of the Draft EIS address the concerns of herbicides as proposed for use. Also, please see response to comments in Letter No. 9, Comment No. 2.
- 2 Cutting of hardwood trees is addressed in individual Forest and Land Resource Management Plans and is not within the scope of this EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis (NO MORE Herbicides) Broad

It is NOT healthy the forest service does not know what they are playing with it like a child playing with medicine some body will

Why? you all do not know what you are doing. I am out in the forest every week or two and if it is not properly taken care of in the near future it will all die and

Comments on Alternatives: if you all will be halving as the rain that makes me angry to think forest services is that stupid fire is the only way to kill it the insect that is that is trillions of them.

Other: quit spending so much money in the wrong places used common sense.

Why? Because you all are wasting to much of our tax dollars.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Jolene J Polly Humphrey Tax Payer
Box 97

City State Zip Code
Wilson Ark. 72856

Tear at perforation

Louis R. Robbins
10 Clinton Mt. Road
Greenbrier, Arkansas
72058
July 30, 1989

USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

Gentlemen:

Thank you for the copy of the DEIS Vegetation Management in the Ozark/Ouachita Mountains. I am a bit confused, however, since the Draft and your subsequent reminder indicate a due date for comments of 9/7/89 and all newspaper articles, The Sierra Club, Conservation Club and the Arkansas Forestry Assoc. (of which I am a member) and others all indicate August 3 to be the deadline. To play it safe, I'm forwarding my comments now.

You have done an excellent job of analyzing the various alternatives and if it were the job of the Forest Service and the intent of Congress that the Forest Service become nine plantation managers for the lumber industry, I would have to agree with your recommendation. However, I don't believe that to be the case and I am completely opposed to clear-cutting, the cutting of additional roads, and to the concept that our national forests should create income. The Ozark/Ouachita National Park does not belong to the people of Arkansas or it would be a state park and/or game refuge and managed by - God forbid - our State Forestry or Game and Fish Commissions. It should not be managed primarily to subsidize the Arkansas lumber industry nor should it create wealth for the subsidy of our school system. We have or should have adequate taxes for the latter.

I own 150+ acres tree farm and initial plantings were made approximately 6 years ago. Unfortunately I did what a prudent person would do and consulted the experts. As a result, beautiful woods were clear-cut (rased is a better word) and the plots were planted exclusively in pine, naturally also to be clear-cut at some future date. It only took one road trip from Arkansas to Florida to see the effects of that type of farming. I now plant a mixture of hardwood and pine and will continue to do so on any land I might add to the farm. I may not become as wealthy as I might but there will be no clear-cutting, only selective cutting and even then some over-mature trees will be left to die as habitat for wildlife. That is what you should be doing: protecting the beauty and enjoyment of the national forest for its owners: ALL Americans.

I am not opposed to the judicial use of herbicides or low to moderate intensity burns, and would recommend these measures for the benefit of certain wild life. I am not opposed to those groups who want the forests to be an urban setting although they could find that by just driving down Arkansas state and county roads close to home. However, additional non-primitive areas should not be created. Finally, I'm not opposed to selective logging provided it does not mean the destruction of thousands of acres for road-building. The expense of which is borne by the American taxpayer.

Response to Comments in Letter No. 17

From: Louis R. Robbins

Comment No.

Response

- 1 Your reference to the August 3 deadline was for the Draft Supplement to the Ouachita Land and Resource Management Plan, not the Draft EIS for Vegetation Management which addresses only vegetation management and covers Forest Service lands on both the Ouachita and Ozark-St. Francis National Forests.
- 2 The issue of clearcutting, silvicultural systems, and road building were discussed in each individual Forest Land and Resource Management Plan and are unrelated issues discussed as item 6, page I-12 of the Draft EIS. Activities addressed are listed on pages I-1 and I-2. The amount of acres treated in alternatives C, D, E, F, and G reflect the amounts treated for both the Ozark-St. Francis and Ouachita National Forests Forest and Land and Resource Management Plans.

L. R. Robbins

The only Alternative that meets these requirements in A through H, which is all the Draft covers, is Alternative B. I hope that you will consider that or some compromise between it and your recommended Alternative F (according to my book *W*, according to the Sierra Club and the Arkansas Forestry). In any event, please no further destruction of our forests.

Let's keep all of our national forests for the benefit of all citizens and not for the principle benefit of state industry and pressure groups.

Yours truly,



L. R. Robbins

cc: Senator Dale Bumpers
 Senator David Pryor
 Representative Tommy Robinson
 Governor Bill Clinton
 Arkansas Forestry Commission
 Arkansas Game and Fish Commission
 Larry Nence
 Senator Stanley Russ

3

Your preference for alternative B was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

COMMENT SHEET

Please refer to the enclosed letter and let us know what issue you would like to see addressed in the environmental impact statement and why these should be considered.

1
Issue Erosion: In my opinion the forest Service could eliminate most of their problems by eliminating clearcutting & avoidance of the steeper grades by all types of timber Why? harvest, I live in the Ouachita National Forest surrounded by Government timber, and I have seen terrible erosion from harvesting techniques over the past 20 years. If these methods continue (mainly clearcuts) in the future the damage to our streams and lakes will be irreversible. I am a outdoorsman who spends a lot of time fishing rivers & fishing lakes. Silt from these clearcuts are being deposited now to amounts that are affecting the spring spawning and even boats are having trouble getting up and down the upper lakes and rivers. Example: Lake Desroy - Caddo! The lake is only about 20 years old and already silt has clogged the upper 3 miles of the lake, shoals, mostly silt and organic matter have formed in places so stop as much as 60% boat access (usually less than 12" water). willows and aquatic vegetation are growing on new islands where water used to be 10 feet deep (cont) (use additional sheets as necessary)

FOR MORE INFORMATION

If you would like to be on the mailing list and continue to receive Environmental Impact Statement information you must either return this form or notify us in some other way.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

If your name and address are incorrect or do not appear on the reverse of this form, please provide us with this information.

Organization Michael D. Grisham
 Name: First Michael Middle D Last Grisham
 Street PO Box 46-A
 City Bonardale Ark. State Ark. Zip Code 71733

JUL 31 89

Response to Comments in Letter No. 18

From: Michael D. Grisham

Comment No. _____ Response

1 Effects of clearcutting are addressed in Individual Forest Land and Resource Management Plans, and are outside the scope of this EIS. Please see page 1-1 of the Draft EIS for activities addressed. As related to vegetation management practices we have incorporated stringent mitigation measures to minimize erosion and establish slope limitations. Please see page II-41, item 4; page II-42, item 11; page II-45, items 20 and 22; page II-47, item 5; page II-48, items 6, 8, and 9; page II-49, items 10 and 11; page II-51, items 1, 2, 3, and 5; page II-52, items 6-9; and page II-59, item 1 (Biological Control) in the Draft EIS.

In section F, starting with page II-85 of the Draft EIS, we analyzed the effects to soil in more detail.

You may wish to contact the Ouachita National Forest, Soil and Water Staff Officer, in Hot Springs. They have done considerable monitoring and can give you a good estimate of the breakdown of how much erosion comes from open roads, forest management, row crop practicing and pasturing, and natural erosion.

② These comments are my personal estimates, and I have no statistics to back me up. I feel that is your job. Contact the Alaska Game & Fish & ask them what the silt is doing to spawning fish. I also recommend you who are involved in this EIS take the time to go to this lake and see for yourself. I don't have a degree in forestry, but I have some common sense, and I have seen the changes. I blame mostly on clearcuts. Face it, they don't work every where.

I have also walked mountains so steep you can hardly stand without a handhold where 80% of the topsoil & subsoil is gone from removal of all vegetation & churning up soil with logging equipment. I've walked in low areas below these clearcuts after rains & sunk up to my calves in muck. This is not management - IT'S ABUSE!

I understand the new 10 year plan has changed policy to a maximum of 25% grade. This is much better and probably sufficient for unevenly harvesting, but NOT CLEARCUTTING -

2
Herbicides: Although I know very little about these chemicals I have to say I'm "OPPOSED 100%". I have talked many times to local foresters and have learned that they (U.S. Forest Service) know very little about long term effects, I own land with a year-round creek coming out of an area that has been repeatedly treated with herbicides. What right do you have to possibly pollute my streams and livestock with chemicals you don't even know the long term effects of.

We share your concerns and this is one of the reasons we developed the extensive Risk Assessment (Appendix A of the DEIS) for herbicides. As a result we have chosen to use only the lowest risk herbicides, at significantly reduced application rates and by selective application techniques. These are only a few restrictions. For a complete list of mitigation measures, see pages II-52-59 and page II-38, item 1 of the Draft EIS, which requires an alternative for site specific projects having no herbicide treatments be included.

With these mitigations, we feel that a restricted herbicide program as proposed can be carried out effectively and with low environmental risks. One of the major benefits of using herbicides in certain situations is to minimize soil erosion expressed in comment number 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

3 ~~Comments on Scientific Analysis:~~ I am well pleased with the amount of research, especially in such areas as herbicides, where such info was not available before. All issues were thoroughly covered. Why? I have to commend the Forest Service for listening to public concerns, and the efforts made to get the public involved in helping to revise the plan. ~~The plan info was~~ environmentally sound plan. ~~with so many alternatives & issues to be concerned with it is hard to decide on one single alternative. Each one was good and had merits. The Forest Service preferred~~ Alternative "W" is probably the best overall plan for all issues concerned, but two areas, in my opinion are not totally acceptable ① clearcuts - although clearcut are reduced in number & size per year, I feel they should be eliminated entirely for at least 10-20 years to allow the forest to partially recover from all of the damage done in the past from abusive timber management. ② The new plan seems to rely on too much herbicide use. I studied the vegetation management volumes extensively, and learned that many of my concerns were unfounded. ~~but~~ BUT certain

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Michael D. Grisham
 Name: First MI Last
 Box 46 - A
 Street
 Pennsdale, Ark. 71933
 City State Zip Code

Tear at perforation

3 Thank you.

4 The issues mentioned here are dealt with in the Forest Land and Resource Management Plan.

Page 2

Herbicides still leave me concerned with long term effects. Even with absence of aerial spraying (which should never be used in my opinion) some herbicide characteristics would lead me to use a less hazardous chemical. Velpar, which has been used many times near my farm (I live in the Quechite National Forest) should be discontinued. IT persists in soil up to 6 months and being "soil active" moves easily through soil. In rainy seasons like this summer, who knows how far this poison could travel in ground water. Roundup & Garlon, both used a great deal in the past, seems much safer. I understand some herbicides work better at certain times of the year, but management activities could be planned to use the safest chemicals at their "best" time.

By using the "safest chemicals", using the new "streamside zones" and "competent trained applicators" herbicides could be a useful tool. But herbicides are not the answer to every thing. Like Clearcuts of the past, too much of anything is bad timber management.

Erosion, another major concern, has been addressed (over)

(page 3)
 in the new plan, and will probably be reduced considerably. Slope limitations and less use of "Mechanical" vegetation management are long overdue. However, due to the abusive methods of the past, topsoil loss and silting of our streams and lakes, I strongly recommend more severe limitations (mainly 70 slope) be considered for the final plan decision.

Here again, the Forest Service preferred alternative "F" on vegetation management is a great improvement and a move in the right direction. I could agree with alternative "F" with a few more restrictions added in the area of % slope limitations and elimination of the potentially more hazardous herbicides used in the past (like Velpar).

One other item has come to my attention. I understand that a large local timber company has passed out "furn letters" to all of its employees. This letter is one-sided and details none of the concerns the public has voiced. Please take these form letters for what they are; the voice of a company who has abused the environment, totally depleted their private timber lands, and now want the Forest Service to allow the same on public lands to keep them in business. Their past actions have probably caused the Forest Service to receive most of its bad reputation.

5 Mitigation measures presented in chapter II of the EIS place the slope limitations and streamside buffers suggested here.

6 Your preference for alternative F has been included in the content analysis of all letters received.

Nelson Adams
Rt. 9, Box 780
Hot Springs, Ark. 71913
August 3, 1989

Steve McCorquodale:

I am concerned about our forest and wildlife. My comments regarding vegetation management are as follows:

1. The research of the effects of herbicides on wildlife stinks. It is a result of gross ignorance or prejudice and I as a taxpayer resent money being spent on this type of if you can call it, research.


2. Because a bird does not immediately die from being sprayed with tree poison does not mean that its life is not effected. Everybody knows that birds feed on insects and rabbits on vegetation. Spraying kills insects and poisons vegetation and makes it unfit for them to eat.

If one wants to truly know the effects of herbicides on birds, fishes and animals they could take counts in areas not sprayed and compare it with counts in areas sprayed. I am a quail hunter and I can assure you I don't find quails, rabbits or even song birds in areas that have been sprayed.

Forests can survive the insult of clear cutting and fire, but cannot survive clearcutting and continuous spraying of herbicides. Herbicides are opposed to nature and should not be used in the national forests. There is too much of it on private land and the results are visable to anyone who has any understanding nature.

I am not opposed to harvesting timber and I think clearcutting has a place in harvesting as long as strips of timber are left along streams and some attention is given to erosion. I am most familiar with the Ouachita national forest and I feel that harvesting has been done well, but the use of herbicides has seriously damaged fishes birds and other wildlife. I am in the forest a great deal and I know this is true.

Sincerely


Nelson Adams

Response to Comments in Letter No. 19

From: Nelson Adams

Comment No.

Response

- 1 Regulations in 36CFR 219.28 require an ongoing process of identifying and prioritizing research needs. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act recognize that all necessary data may not be available and that management may continue as research is done.
- 2 Evidence presented in the Risk Assessment and chapter IV of the EIS indicates that the herbicides evaluated do not bioaccumulate (Draft EIS pages IV-71 and IV-101 and appendix A page 8-2 and table 3-4 on page 3-28) so cumulative or delayed effects such as those suggested by the commenter are not probable.

Nowhere is "... the continuous spraying of herbicides ..." proposed; the document clearly suggests two to three applications in an 80-year rotation. While each of these applications may result in temporary wildlife population shifts, the best available scientific work suggests that these disturbed populations recover along with the vegetative recolonization of the site (pages IV-71 through IV-75 of the Draft EIS).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1

Comments on Scientific Analysis:

All scientific analyses appear valid. Although, it may not be wise to use laboratory mice and rats as toxicity models for shrews and bats and pheasants and quails as models for amphibians and reptiles I know of no other way to determine exposure risk.

Why?

Since bats and shrews are no more sensitive to organochlorine insecticides than are other mammals I am willing to accept that herbicide toxicity is similar for distantly related species.

2

Comments on Alternatives:

Both "Alternative B" and "Alternative F" are acceptable management plans. I would give "Alternative B" a slight edge over "Alternative F" since it is less costly and more environmentally sound. I believe that prescribed burns, especially when large in size and frequent, are detrimental to many forest floor vertebrates (see enclosed letter). I also believe that indiscriminate burning of upland sites reduces that number of burrowing mammals that alter the hydrologic performance of forest soils. As such, I recommend smaller and less frequent burns.

Other:

No further comments.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Robert J. Eshev

MISSISSIPPI STATE UNIVERSITY (Organization)

Street RESEARCH CENTER

BUILDING 2423

JOHN C. STENNIS SPACE CENTER

COLUMBIAN SPACE CENTER, MS 39529

Tear at perforation

Response to Comments in Letter No. 20

From: Robert J. Eshev

Comment No.

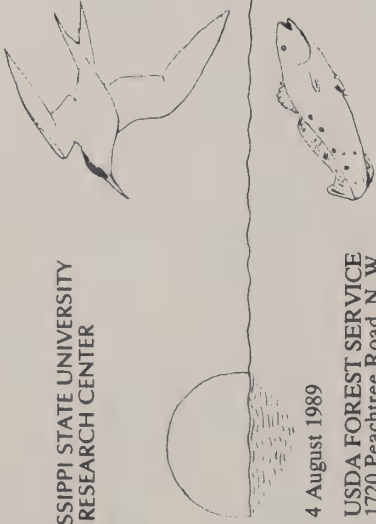
Response

1 Comment noted.

2 The commenter's preference for alternatives B or F has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

MISSISSIPPI STATE UNIVERSITY
RESEARCH CENTER



JOHN C. STENNIS SPACE CENTER
STENNIS SPACE CENTER, MS 39529
(601) 686-3227

4 August 1989

USDA FOREST SERVICE
1720 Peachtree Road, N. W.
Atlanta, Georgia 30367

Gentlemen:

Enclosed are three figures on the effects of prescribed burns on non-target species. They give the total number of animals captured by species during 17,100 station nights of trapping (8,550 per treatment). Since the effort was the same for each treatment and burned and control areas were sampled concurrently the raw data is comparable.

The study was conducted in South Mississippi (Hancock and Harrison Counties) over a three year period and is not complete. Sites were burned 0.5-2 years prior to trapping. Grids (5 x 5 with 15 meter spacing) were established in forested (predominantly pine) areas. A pitfall (#10 tin can buried level with the ground) and large Sherman live trap were placed at each of the 25 stations on the grid. Sherman traps were baited daily with a mixture of rolled oats and peanut butter; pitfalls were not baited. All grids were trapped for 18 consecutive days and animals caught were removed from the grid.

Although the study was designed to sample small mammals rather than amphibians and reptiles we did get some interesting "herp" data. More herps were trapped in control than burned areas. The only species that was captured more frequently in burned areas than controls was the box turtle (*Terrapene carolina* = T.car). Because we caught so few individuals of most species, the only comparison that is probably biologically meaningful (and significantly different) is for the ground skink (*Sincella lateralis* = S.lat).

The cotton mouse (*Peromyscus gossypinus* = P.gos) was the most numerous small mammal captured. It, the least shrew (*Cryptotis parva* = C.par) and the cotton rat (*Sigmodon hispidus* = S.his) were more abundant in burned areas than controls. The least shrew and cotton rat are generally considered field species and the cotton mouse is attracted to disturbances. The two other shrews, the southeastern shrew (*Sorex longirostris* = S.long) and the short-tailed shrew (*Blarina carolinensis* = B.car), were less abundant in burned areas. These data agree with published accounts.

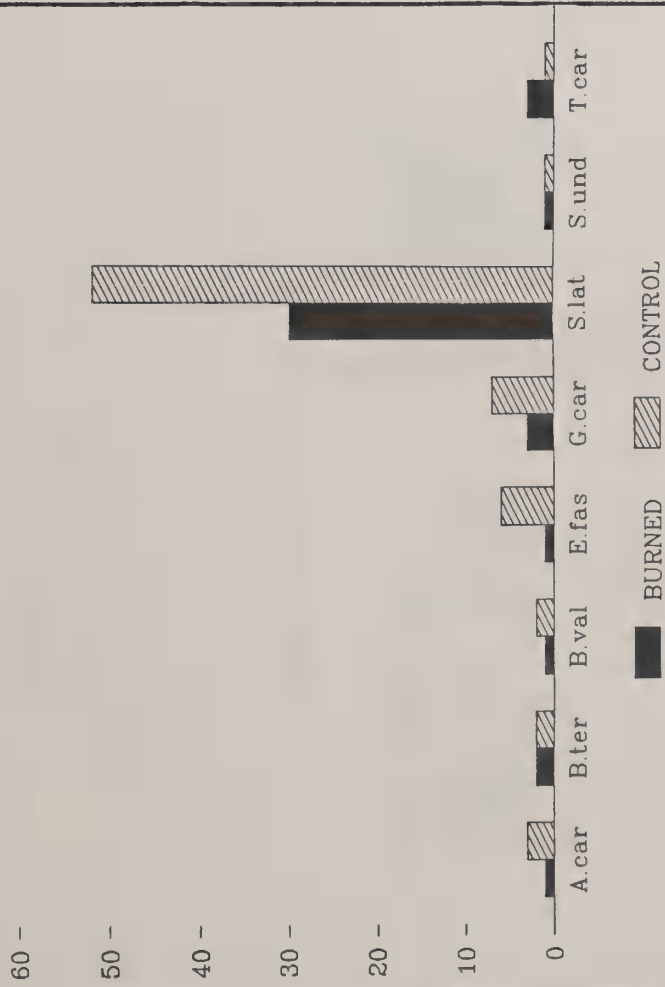
Sincerely,

Robert J. Esher
Robert J. Esher

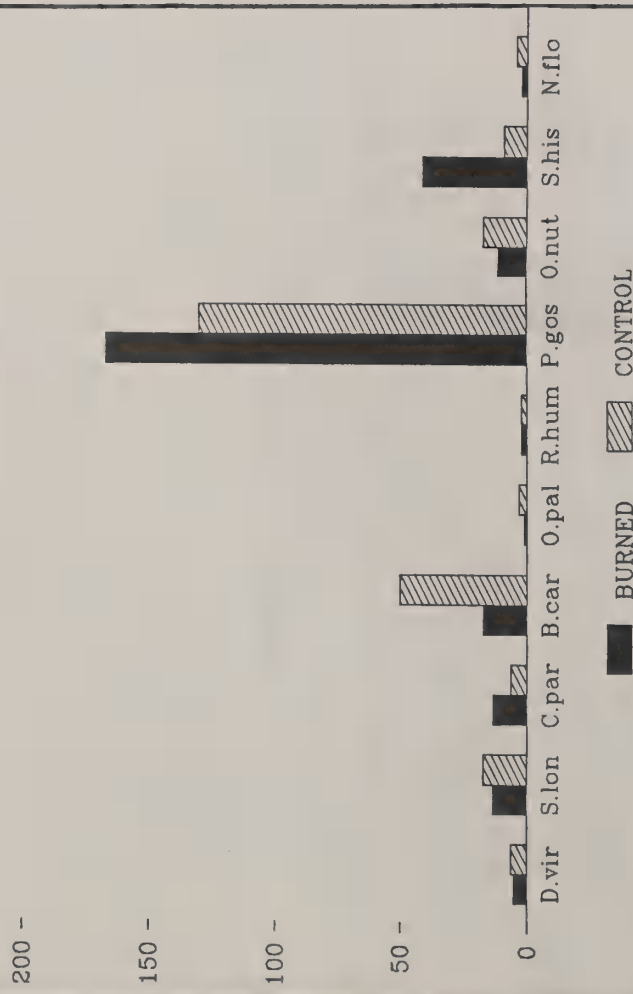
Head of Environmental Research

(encl.)

PRESCRIBED BURNS EFFECT ON HERPS

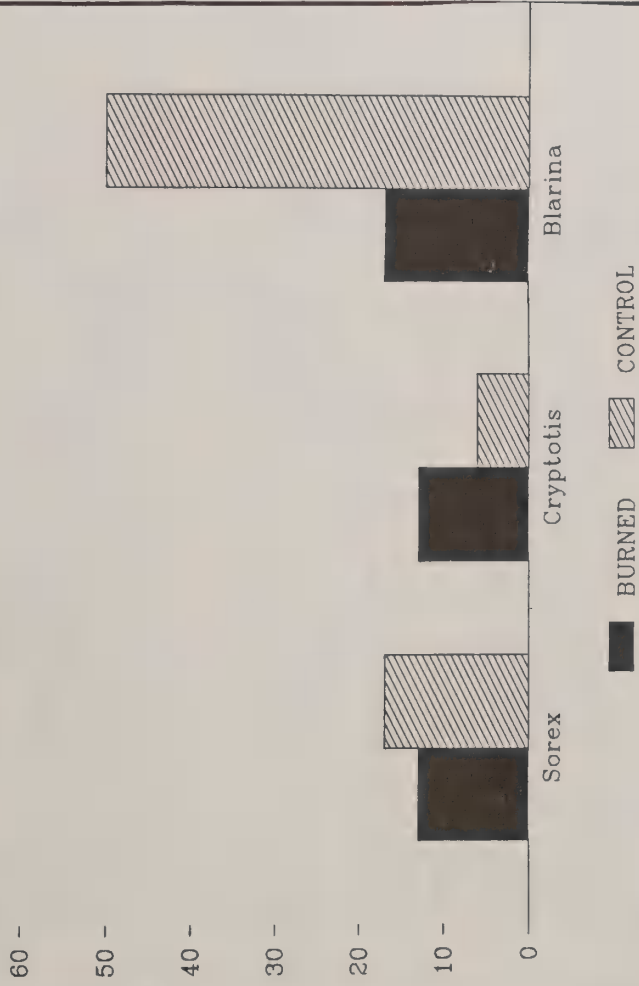


PRESCRIBED BURNS EFFECT ON MAMMALS



Includes SSC study.

PRESCRIBED BURNS EFFECT ON SHREWS



Includes SSC study.

Camden, Arkansas
July 27, 1989

USFS

Your Vegetation Management Appendices for the Ozark/Ouachita Mountains is an excellent collection of scientific information and data on the effects of herbicides and fire. Figure 1-1 on page 1-4 well summarizes the risk analysis process. This is a valuable book for future reference.

Your Volume 1 starting "SUMMARY" is well done, giving a quick overview of the alternatives evaluated. It is far superior to the poor way the Ouachita National Forest presented their "Land & Resource Management Plan".

Your preference of Alternative F appears to be a political decision rather than scientific. The use of manual treatments so replace some herbicide use cannot be justified economically or scientifically. Your current alternative C and your preferred alternative F both fail to use the advantages of aerial application of herbicides. The only alternative including aerial application is alternative H. This alternative would create the most jobs, generate the most products, and the most income for communities, schools, and Uncle Sam. However because of current organized political opposition to productive forest management, Alternative H may not be feasible. The present alternative C is superior to your preferred F, but you should modify C to include aerial application of herbicides.

Page 1V-47 confirms some of the advantages using herbicides.

"Williston and Balmer (1980) state that shortleaf pine sites prepared by mechanical equipment have 1.5 to 4 times the average number of growing tips infested by the Nantucket pine tip moth than areas site prepared using herbicides. They also state that on herbicide treated sites, parasites of the Nantucket pine tip moth are more active"

Page 1V-56 In research on uneven age management, Baker confirms the need of extra herbicide treatments when using all age management. Vocal environmentalists demand all age management and no herbicides. If you follow their demands, much productive pine land will gradually convert to low grade scrub oak.

Wilderness areas and parks have been set aside for recreational and aesthetic needs. National Forests are for multiple use. I hope that the Forest Service will continue Multiple Use management, wise use for the greatest good, for the greatest number of people, for all times. In spite of fanatic chemi-phobia concerns, and vocal preservation demands, forest management should be based on science and economics.

There is a silent majority of Americans who are all consumers of forest products and tax payers. The Ouachita and Ozark Forests can operate at a profit. Let us continue to be a budget asset and not become a tax payer burden.

Armin T. Dresse
Armin T. Dresse
Fellow, Society of American Foresters
189 Van Duzer Rd.
Camden, Ark. 71701

Response to Comments in Letter No. 21

From: Armin T. Dresse

Comment No.

Response

1 Preference for alternative F is based on many factors which are disclosed in the Record of Decision. Certainly, public comment is a part of the decision-making process.

Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method.

We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-38-39 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

2 We agree. The Draft EIS reflects that unevenage management utilizes the same methods as evenage management. This is part of our reason for not allowing this debate to slip into the scope of our analysis.

3 We agree. Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 We are very complete. It was very well evaluated for a person without this type of background.

Why?

Comments on Alternatives:

2 I feel that alternative F is best from the stand point of a recreation user.

Why?

Just like it would be less impact at the visual quality of on the forest to get full scale of control. Cost is a package of the other alternatives.

Why?

(use additional sheets as necessary)

To return, this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: ZAHN A. LEWIS
First MI Last (Organization)
3221 S. 57th Lane
Street
FOAT Smith, AR 72903
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 22

From: Zahn A. Lewis

Comment No.

Response

1

We are pleased the commenter found the document easy to understand.

2

Your preference for alternative F was included in the content analysis of all comments received.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 **Comments on Scientific Analysis:** Your report was good. I do not accept your for set for evaluation of risks description of the herbicides and its consequent alteration of water.

Why? The intermediate and longterm studies do not have sufficient statistical significance. The alterations that you're proposing will have longterm effects. I believe it's adventuresome to proceed alternative C or, accept alternative E, F, G, H, or I.

Comments on Alternatives:

2 **Why?** Alternative D avoids the dangers of the risks of the use of herbicides. It would also enhance the employment of low-skilled laborers. It could be partly subsidized with other employment programs for the unskilled.

3 **Other:** The management of natural resources must be different from the management of corporations. Corporations must produce short term goals. Natural resources must be managed principally for longterm resources.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

C. Quatro

Name: Carlos A. Araoz, County Medical Society
 First MI Last (Organization)
24 Glenridge Road, Little Rock, AR 72207

Street Little Rock, AR 72207
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 23

From: Carlos A. Araoz

Comment No.

Response

1

Parametric statistics do not apply to data which is estimated using analogy - a non-statistical technique firmly based in science and generally accepted by the scientific communities.

In this document we have complied with the Council on Environmental Quality (CEQ) regulations on incomplete and unavailable information, which require analysis of "... reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) to comply with CEQ's requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are essentially worst case analyses that exceed CEQ requirements.

The Risk Assessment used a modeling approach to estimate the potential of each herbicide, additive, and inert ingredient to cause toxic effects, cancer, mutations, and birth defects under a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). It also evaluates bioaccumulation and synergism of the chemicals. Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures. The effects of those exposures are evaluated based on toxicity data for each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community.

2 Your preference for alternative D was included in content analysis of all comments received. The only employment data we developed was qualitative, and it is displayed in table II-8. Though we don't have quantitative data, we cannot find discernable employment differences between alternatives C, D, E, F, and G. This is partly due to labor intensity of selective herbicide application methods. Unless herbicides are broadcast, it is inappropriate to assume their use has any measurable effect on employment.

3 We agree. This document only addresses the effects of the various vegetation management methods used to accomplish a broad range of outputs including those identified in the Individual Forest Land and Resource Management Plans.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1. That our method is used, keep all money used in this area
- 2. Human danger should be considered first.
- 3. ~~There are many other things that should be considered first.~~

Why?
 Many people whom live in the area when aerial spraying
 lived a good healthy life. When I see people living
 75 to 90 years old, it's not that dangerous. But is danger
 to the animals, fish
 you going to, have to do something about insects,
 people are dying with tick fever. L. You County
 has numerous reported cases of this disease
 called (Lyme Disease).
 Why? Ask for clearing live these people whom need to
 work, for all clearing. As far as men working and
 getting hurt, there's workmen camp. The government
 not going to pay them, if they get hurt. You'll help
 them, as well get a lot of people off of welfare you'll
 come out in the long run. Plus it will save the
 animal life. So I would say, hand clearing spraying is best.
 I've had hundreds of cases, this is my opinion.
 And in dead of 40% of the workers do get hurt, do
 it on a contract basis

Other:
 Why?
 I've had hundreds of cases, this is my opinion.
 And in dead of 40% of the workers do get hurt, do
 it on a contract basis

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
 JACKIE L. RUSHING
 AL 63 B15460
 Street
 AODGENS PK 74939
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 24

From: Jackie L. Rushing

Response

Comment No.

1 Toxic effects on wildlife, as well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 This is a serious problem, however we did not address insecticides in this Draft EIS. You may want to consult with county or State health officials.

3 In the preferred alternative manual treatments have increased from current levels. See the comparisons in tables II-4 and II-5 on page II-66 of the Draft EIS. In the Final EIS we have also increased our reliance on selective herbicide application techniques rather than broadcast.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 I think you have done a good job of explaining the Pros and Cons of all the alternatives.

Why? Besides the explanations there is plenty of information available in the text to further study the results of the various methods of control.

Comments on Alternatives:

2 It seems to me that alternative F will do the job.

Why? It appears to be cost effective while at the same time gives the Forest Service leeway to use the most effective means on a specific problem.

Other: G and H

3 Why? I don't think aerial or maximum strength use of herbicides are desirable.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
BERNARD E ANGE
Site 20 JUMILLA LANE
HOT SPRINGS, AR 71909
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 25

From: BERNARD E. ANGE

Comment No. Response

- 1 The Interdisciplinary Team is pleased the commenter finds the document understandable.
2 The commenter's preference for alternative F is included in the content analysis of all comments received.
3 In the preferred alternative aerial application is not permitted and application rates as required on page II-53 of the Draft EIS are less than 1/2 of the amount allowed by labeling for the alternatives where it was allowed.

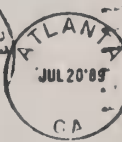
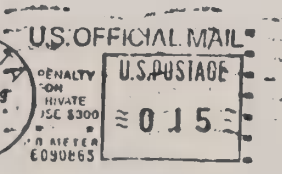
1
Statement Received and it
Contains A wealth of information
Our Local People will Comment
No Adverse Comments from This
office.

C. Dixon
7-31-89
Send Material to
ALAN BAKER
18400 H WASSEEE RD
Huntersville NC 28078
He is the new
S.E. Regional VP

Carbin Dixon

TROUT UNLIMITED
EASTERN REGION REP.
ROUTE 1, BOX 12

DIX0001 229391616 1389 07/25/89
NOTIFY SENDER OF NEW ADDRESS
DIXON
RR 3 BOX 158/P
STAUNTON VA 24401-9336



AUG 04 89

REGISTRATIVE MANAGEMENT
Region 8

Response to Comments in Letter No. 26

From: Corbin Dixon

Response

Comment No.

1 Comment noted.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The Scientific Analysis was more than adequate for my concerns. It appears to me that it is thorough and should be acceptable for any person in the general public to be able to make a decision on their choice of alternative.

Why? The information appeared to be as complete as could be needed and understood by the average person. There was also plentiful information for groups and organizations to use for making decisions in an informed and scientific manner.

Comments on Alternatives: The alternatives offered included an excellent range of choices from doing nothing at all to almost total control of the National Forests. I chose Alternative B because it appears to offer the best compromise between my wishes for an almost uncontrolled forest and the apparent wishes of most of the general public for a more controlled forest. If Alternative B were followed I believe the forest will still be around for our great-grandchildren to enjoy.

Why? Nature seems to know what she is doing most of the time. People also need some adaptation to their needs.

Other: This was an excellent piece of work packed with meaningful information for all groups of people. Thank you for asking my opinion.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Carolyn K. Narramore
Name: First MI Last (Organization)
P.O. Box 605
Street Yellville, AR 72687
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 2Z

From: Carolyn K. Narramore

Comment No.

Response

- 1 The Interdisciplinary Team is pleased you feel the EIS is complete, informative, and well done.
2 Your preference for alternative B was included in content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.
Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? the Alternatives respond to your concerns?

Comments on Scientific Analysis: *Very thorough,*

Why?

Comments on Alternatives: *Only Alternative "A" will
Compliment my endorsement of Plan "P" of the land and
Resource Plan*

Why? *"B" Clear Cutting*

Other: *I am also concerned about herbicides seeping into
the ~~ground~~ ground water*

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Jack W. Cobb
Street
6500 Satterson Ln
City State Zip Code
Texas Ark. 75502

Tear at perforation

Response to Comments in Letter No. 2B

From: Jack W. Cobb

Comment No.

Response

1

Your preference for alternative A was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.

Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Clearcutting was not addressed in this EIS (see activities addressed on pages I-1 and I-2 of the Draft EIS). However, vegetation management will be needed in all types harvest systems. See page I-7 of the Draft EIS.

Vegetation management for managing timber occurs on 39 percent of the acres treated each year in the preferred alternative and is needed regardless of harvest method. See page II-12 of the Draft EIS.

2

We are also concerned that groundwater not be affected and have evaluated the proposed herbicides extensively in Appendix C. We are requiring stringent mitigation measures (see pages II-52-59 of the Draft EIS) for use of herbicides several of which address protection of groundwater.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *Comments - If I had the time to read your 2 volume report, I'd probably be in a better position to comment on it. Unfortunately you have written more than I can get to in this*

Why?

to National Forest is far more important than its stumps value in pine, and I suspect very much of our assumptions that it is a

Comments on Alternatives: Considered I must accept.

1. I'd say timber is removed, it should be only by select cutting of mature trees, and replanting of all white; hardwoods,

Why? pine, and oak trees w/ no commercial value. I oppose in the stumps term any

alternatives which incorporate clear cutting or other: the poisoning of any species. For my part, I want the Forest Service to get out of the

timber business, and concentrate instead on

preserving what's left of our major wild areas in Arizona. Walter Skelton

8/1/89

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: *Walter Skelton*
First Last (Organization)
1300 Tower Bldg. - 4th Center
Street
Little Rock, Ark. 72201
City State Zip Code
(501) 374-7745

Tear at perforation

Response to Comments in Letter No. 29

From: Walter Skelton

Comment No.

Response

1 The activities addressed and the scope of the Vegetation Management EIS is covered on pages I-1-6 of the Draft EIS. Types of harvest cutting and desired species to manage are covered in each individual Forest Land and Resource Management Plan. This EIS concentrates on the methods allowed, frequency, and intensity of tools for most of the activities conducted on national forest lands.

2 Potential for causing adverse effects on non-target species is greatest when herbicides are broadcast on an area, which occurs with some ground application methods as well as aerial. These potential adverse effects are limited by mitigations covering choice of herbicides; application rates, methods, and timing; and use of buffers (Draft EIS pages II-52 to II-59).

Buffer strips for timber harvest have been specified in each Forest Land and Resource Management Plan and are outside the scope of this EIS. Filter strips for prescribed fire and mechanical tools, whose width in feet must be at least 30 plus 1.5 times the percent slope, have been shown by research and monitoring to trap nearly all sediment from vegetation management activities before it reaches the stream (Draft EIS pages II-47 and II-52). Buffers for herbicide use (minimum 30 horizontal feet for ground application) have been shown by research and monitoring to keep herbicide concentrations in streams below 0.050 ppm (Draft EIS pages IV-98 to IV-101). Each forest may be more restrictive than these widths, but widening them for our EIS is not justified by the facts.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: *Quite good, thorough, Cooperative*

Why? Varied plans were offered for consideration. Each were defined, and described per management practices considered.

2 Comments on Alternatives: *Plan F does seem to hold the best overall balance for Forest management.*

Why? More emphasis placed on wildlife, proven methods used, herbicide use is in moderation, and no grazing. Overall a better and more diverse habitat will be maintained.

Other:

Why?

(use additional sheets if necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Jackie R. Last WAYMIRE
 MI HO 63 (Organization) Box 5075
 Street Hodgen, OK. Zip Code 74939
 City HO State OK

Tear at perforation

Response to Comments in Letter No. 30

From: Jackie R. Waymire

Comment No. _____ Response _____

1 The Interdisciplinary Team is pleased that the commenter found the EIS thorough.

2 Your preference for alternative F was included in the content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: The way you have done an excellent job analyzing all aspects of vegetation management. This item is important but I struggle to think how many Fox Why? Dollars went on doing this research. 400', as all government bodies, how to respect for the taxpayer dollar, or is it same.

Comments on Alternatives: As stated earlier I prefer alternative D. I am totally against using herbicides in the National Forest.

Why? I prefer prescribed burning because it is the only natural vegetation management method that is natural. It also helps control ticks, chiggers & promotes new growth of red woods such as pokeberry, compass etc that benefit wildlife.

Other: I year herbicide reduction of phrease & lakes. I want the forest left as natural as possible.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization) E. L. Prospect
Street City State Zip Code
400 Kings Ave 71901

Tear at perforation

Response to Comments in Letter No. 31

From: E. L. Ragsdale

Comment No.

Response

1 Your preference for alternative D was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require. See our response to comments in Letter No. 5, Comment No. 2.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives: You state in Volume I, alternatives A thru H, are these all of the alternatives? You discuss with others I was told they go as high as P. Have you limited the alternatives to A thru H?

Why? If so why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Terry L. Holste
11100 Highway 10
Doakson, AR 71822

Name: First MI Last (Organization)

Street

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 32

From: Terry L. Holste

Comment No.

Response

1 The referenced alternative P is in another document. This EIS addresses varying levels of vegetation management methods and tools for all of the national forest lands in Arkansas and Oklahoma. The alternative P you referenced is just for the Draft Supplement to the Ouachita National Forest Plan that was concurrently reviewed by the public.



TENNESSEE DEPARTMENT OF CONSERVATION
DIVISION OF FORESTRY

701 BROADWAY
 NASHVILLE, TENNESSEE 37219-5237

August 7, 1989

Steve McCorquodale, Team Leader
 Vegetation Management EIS Team
 USDA Forest Service
 1720 Peachtree Road, NW
 Atlanta, GA 30367

Dear Mr. McCorquodale:

This letter is in response to your request for comments on the Draft EIS for Vegetation Management in the Ozark/Ouachita Mountains. We have reviewed these drafts and offer the following comments.

The Tennessee Division of Forestry, Department of Conservation supports the preferred Alternative F in the draft EIS. Alternative F provides the best mixture of methods for vegetation management. All options should be available to land managers to achieve the desired management objectives.

We share the concern about herbicides with the public and the Forest Service. However, we believe that the use of herbicides/pesticides needs to be put in perspective, especially in the eyes of the public. There are many examples of reasonable uses of potentially hazardous substances including herbicides and pesticides that are accepted by the public. Herbicides and pesticides are frequently used by most households to control weeds, insects, and animals in their homes, yards, and gardens. Dangerous compounds are used daily in paints, household cleaners, and plastics. Automobiles continue to pollute the air. Bleach and phosphate detergents pollute our water. Tons of herbicides and pesticides are used in agricultural crops. However, the public seems to be more critical of herbicide use on forests. The application of EPA approved herbicides in vegetation management of forests following label instructions with trained personnel is just as safe as those applied and used in these other environments.

Response to Comments in Letter No. 33

From: Wayne K. Clatterbuck

Comment No.

Response

1 Your preference for alternative F was included in the content analysis of all comments received.

Steve McCorquodale
August 7, 1989
Page 2

The proposed decreased use of herbicides will probably conflict with the increased use of uneven-aged management on National Forests in Arkansas. Prescribed burning and mechanical methods are not feasible alternatives in vegetation management of uneven-aged forests because of the damage incurred on residual vegetation. Thus, herbicides and manual labor are the only methods available to control, manipulate, or manage the vegetation.

2 Even though vegetation management as defined in this EIS is the manipulation of plants by means other than timber harvest, we believe the consequences of uneven-aged management needs to be addressed. In Arkansas, many interest groups are promoting uneven-aged management on National Forests as an alternative to clearcutting. Even though selection management is a legitimate system in some cover types, most groups do not realize the costs and undesirable results that uneven-aged management can bring such as more roads, more entries into the stand, damage to residual trees, species composition change from intolerants to tolerants, difficulty in regulating the forest, increased use of herbicides, etc. With the controversy of below-cost timber sales, uneven-aged management will increase the costs of harvesting, regeneration, management, and administration. We suggest that the Forest Service maintain current and accurate records on areas where selection/uneven-aged management is practiced to show costs, advantages, and disadvantages of this management regime.

Thank you for this opportunity to voice our opinions on the Draft EIS for Vegetation Management in the Ozark and Ouachita Mountains. We hope they are useful in your review. Feel free to contact us if we can be of further assistance.

Sincerely,

Wayne K. Clatterbuck

Wayne K. Clatterbuck
Staff Forester
Forest Resource Planning

WKC:ljc

Silvicultural systems and methods of reproduction (even-aged and uneven-aged) are addressed in each Forest Land and Resource Management Plan.

This EIS addresses the effects of various methods and tools and their frequencies used for managing vegetation associated with fuel treatment, wildlife habitat improvement, range forage improvement, corridor maintenance, site preparation, and timber stand improvement.

Tree species are grouped into three classes (intolerant, intermediate, or tolerant) based on their ability to reproduce and grow despite shading and root competition from other species (page I-7 of the Draft EIS). The effects of the five vegetation management methods (fire, herbicide, manual, mechanical, and biological) must conform to the biological needs of the desired tree species (pages IV-30-150 of the Draft EIS). Other issues and effects, such as costs, roads, damage to residuals, etc., are more appropriately addressed in Forest and Land Resource Management Plans and site-specific analyses and are outside the defined scope of this EIS.



TOM R. KOEHLER, M.D.
#8 Serenity
Little Rock, AR 72205

Telephone: (501) 225-0735

August 1, 1989

USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Georgia 30367

Attention: Draft 0/0, Room 3625

Dear Sirs:

The following is drafted in response to your environmental impact study on vegetation management in the Ozark/Ouachita Mountains:

1. All of the proposed responses A - H assume that pine must be grown on the national forest land. Further vegetation management means primarily control of broad leaf vegetation essentially by herbicide use.
2. All responses assume inexhaustible nutrients on the pine tree farms planned. In fact, the repeated removal from harvest sites by successive logging operations removes tremendous amounts of nutrient from the soil. These nutrients are sent to distant sites, thus depleting the local area of nutrients. I see no long-term evaluation of this effect and I see no evaluation of the use of fertilizer and its cost as a result of repeated logging operations over a long term.
3. The use of selective cutting to control vegetation on right of way and along roadways could be incorporated in Plan A with no problem. I think a complete evaluation of herbicide exposure is a must. There are too many unanswered questions on the human effects of the herbicides at this point. I think the thickness of Volume II testifies to the intent of the Forest Service to use more herbicide, therefore, I feel that we should be very sure this is a safe procedure.
4. There is no concern exhibited in any of the planning for long-term national need of reserve of large mature hardwood and pine to meet national emergencies. For example, that incurred in World War II. I think there should be some concern about our national timber reserve is compared to the U.S.S.R. and anticipate need in the future in this respect.
5. The Ouachita National Forest area contains large areas of private pine tree farms now. Most of these have been created in the last fifteen years. The adoption of this pine tree farm process by the Forest Service in the same area promises a monoculture of pine from border to border and a dearth of wild life dependent on hard and soft mast in the total national forest area.

Response to Comments in Letter No. 34

From: Dr. Tom R. Koehler

Comment No.

Response

- 1 The national forests are managed under numerous Federal laws and regulations of which one, The National Forest Management Act, requires a Forest Land and Resource Management Plan be developed for each Forest and be in compliance with the National Environmental Policy Act. These Plans, developed through public involvement, determine the species composition desired. This EIS only addresses the methods and tools used in vegetation management associated with activities carried out on National Forest lands in Arkansas and Oklahoma. Alternatives A-H present a broad range of vegetation management program sizes, frequencies, and intensities of treatments, and methods used in management of the national forests.
In alternative F, the Draft EIS preferred alternative (page II-12), only 39 percent of the acres treated annually is associated with timber management.
- 2 Our analysis does not assume inexhaustible nutrients on treated sites. The long term effects of treatments on soil productivity are discussed in several areas of chapter IV. Nutrient displacement and gains to the soil are discussed on pages IV-89 and 91 of the Draft EIS. Fertilization is beyond the scope of this EIS and is not currently being used in the general forest area of the Ozark/Ouachita National Forest except where needed to establish a grass cover to prevent erosion or for wildlife habitat improvement in openings.
Alternative A displays the effects of no vegetation treatment. There could be numerous variations within the span of each alternative.
The Risk Assessment made an exhaustive analysis of the proposed herbicides. Modeling is used in the Risk Assessment to overcome data gaps and estimate potential effects of herbicides on various environmental elements. The models consistently make conservative assumptions to deliberately overestimate potential adverse effects. Since most of the models multiply one risk times another, we have actually magnified the estimate of risk far beyond what is probable in the field. The Risk Assessment looks at a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures under each alternative. The effects of those exposures are evaluated based on data on the toxicity of each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community.
The thickness of Volume II does not reflect the intent to use more herbicides, rather it analyzes the effects to worker, public and wildlife, and remaining environment when used.
- 3 Comments 4-9 are all very noteworthy, but are beyond the scope of this EIS, as defined in chapter I of the Draft EIS. These are all issues more appropriately addressed at the Forest, State, or National level.

USDA Forest Service
Page 2
August 1, 1989

6. The competition created by the sale of timber from the National Forest Service cripples the individual Arkansas tree farmer who must compete with them for sale of timber. This is unfair competition with the taxpaying public who pay taxes on their land. We need a way of producing income in rural areas of Arkansas. Forest service competition is stifling ■ local industry.
7. The U.S. cannot afford the continued use of foreign oil. The long distance transportation on Interstate Highways certainly assumes ■ considerable supply of oil and that the roadways can be kept up with current revenues. I think both these plans are short-sighted. It would appear that we're going to need a return to the use of railroads to move heavy equipment and materials if we're going to be competitive. This is going to require the use of hardwood for ties. I see no effort on the part of the National Forest Service to increase hardwood production within the national forest. I don't anticipate that private enterprise will do this because of the long growth period required for the production of hardwoods.
8. The timber industry is being subsidized by tax breaks and cheap timber from the national forests in Arkansas. The people of Arkansas are being shortchanged. Although timber might be more expensive to the timber industry and consumer if bought from private individuals it would ultimately result in more net money staying in Arkansas since the product is sold largely out of state and is primarily owned by out-of-state interests. I see no study of the probable increase in taxable income to the private tree farmer. I think from the above-stated perspective a more balanced plan with more concern of using the national forest as a standing wood storage area allowing maximum maturity would be in the best national and local interest. I would strictly forbid herbicide usage until proven unequivocally safe. Right of way and roadway clearings could be maintained by mechanical means. I think to allow selected cutting and management in keeping with the idea that the national forest is ■ reserve could be allowed. If this were the practice private enterprise would not have to be in competition with the Forest Service to provide wood products to the timber industry. Private tree farms would likely flourish with production of increased local taxable income. I think free enterprise should apply to the timber industry just as it does to other aspects of our economy.
9. I appreciate the opportunity to have input in the planning process. I would hope that there would be a true consideration of this input.

Sincerely,

T. R. Koehler, M.D.

TRK/mg

August 11, 1989

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Road, NW
Atlanta, GA 30367

Dear Mr. Alcock;

First, my apologies for missing the deadline for comments on the Ouachita National Forest Supplemental Analysis.

In total ignorance, I had assumed my retirement December, 1988, would give me all the time I needed for my projects.

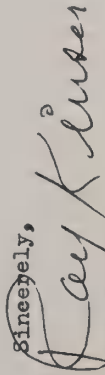
But I have completed my reading of your two volumes of *VEGETATIVE MANAGEMENT* in the Ozarks/Ouachita Mountains.

Because of the reduction in grazing, heavy equipment and herbicides, and increase in controlled burning, I can agree with your preference of Alternative F.

I did not agree with your choice in the Supplemental Study, in fact none of the alternatives would be acceptable to me. But, I believe your *total* study and assessment on this study to be as thorough and fair as is possible at present.

Thanks for allowing me to review these two sets of studies.

Sincerely,



Ray Kinser
13 Meadowbrook Drive
Conway, AR 72032

Response to Comments in Letter No. 35

From: Ray Kinser

Comment No. Response

- 1 Your preference for alternative F was included in the content analysis of all comments received.

D.L. Moseley
1115 N. Tyler
Little Rock, AR
72205

Dear Sirs:

After careful review of the Environmental Impact Statement for the Ozark Ouachita Mountains Vegetation Management Program, I feel I must comment.

I am opposed to the continued use of herbicides period. More ecologically sound forest practices like selective cutting instead of clearcutting would eventually eliminate the need for it!

There are alternatives for vegetation management: Brush saws, chain saws, & hand tools would be effective, and alot cheaper. You would also be putting the money into the local economy for labor instead of buying the herbicides out of state.

Your research on herbicide use has some rather obvious data problems. Most of it is either incomplete or unavailable. Your shaky data in no way justifies the use of dangerous herbicides.

There are organic herbicides available that are completely non-toxic. You need to do research with them as well.

Sincerely,
Debra L. Moseley

Response to Comments in Letter No. 36

From: Debra L. Moseley

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
Within the vegetation management program the scientific evidence presented in the Risk Assessment and the Draft EIS support the position that the evaluated herbicides can be used in an ecologically sound manner. The issue of whether clearcutting, selective cutting, or herbicides are more ecologically sound harvest methods is beyond the scope of this document.
- 2 We agree. The proposed preferred alternative contains over 10,000 acres to be treated with these tools. There are situations, however, such as control of sprouting and release of individual species from grasses, that manual methods are less effective as disclosed in chapter IV of the Draft EIS.
- 3 Please see response to comments in Letter No. 23, Comment No. 2.
- 4 While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-58-65 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
819 TAYLOR ST., ROOM 8400
FORT WORTH, TEXAS 76102

REGION 6

August 11, 1989

REFER TO
HEP-06
6655-AR

Mr. Steve McCorquodale
USDA, Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

This is in response to your request for comments on the Draft Environmental Impact Statement (DEIS) for Vegetation Management in the Ozark/Ouachita Mountains, Arkansas.

This office of the Federal Highway Administration has no comments to offer on the DEIS. However, we have furnished the DEIS to our Division Office in Little Rock and requested they furnish directly to you any comments they may have on it.

Sincerely yours,

David R. Williamson
Environmental Specialist

Response to Comments in Letter No. 37

From: David R. Williamson

Comment No. Response

1 Comment noted.

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: NOT ENOUGH RESEARCH DONE ON THE POSSIBLE LONG TERM HEALTH EFFECTS ON HUMAN BEINGS AND THE FOOD CHAIN. RESEARCH NEEDS TO EXAMINE HEALTH RECORDS ON PEOPLE LIVING IN NATIONAL FOREST AND FORESTRY WORKERS APPLYING HERBICIDES COMPARED TO THE REST OF THE POPULATION. EXAMINE MEDICAL RECORDS DATING BACK TO THE YEARS AFTER THE LAST SPRAYING IN OZARK NATIONAL FOREST. WHY? BECAUSE FROM WHAT I HEAR THERE HAS BEEN ABOUT 100 CASES OF LUKEMIA IN NATIONAL FOREST RESIDENTS & FOREST WORKERS.

NO SPRAYING!

WHY? BECAUSE YOU CANNOT GATHER WITH HUMAN SENSES THE NATURE OF THE CHEMICAL IS NOT CHANGED BY REDUCING THE QUANTITY REGARDLESS OF HOW SMALL THE DOSE IT IS STILL POISON - JUST AS SALTINE REMAINS SALTINE NO MATTER HOW THIN YOU SLICE IT. POISON IS HARMFUL TO THE HUMAN ORGANISM WHEN IT IS INGESTED BY A HUMAN BEING. THERE IS DAMAGE. THE MORE POISON THE MORE OTHER DAMAGE. THE SMALLER AMOUNT THE LESS DAMAGE. THIS TEST THAT THE DOSE MAY BE REDUCED UNTIL DAMAGE CAN NO LONGER BE SEEN OR MEASURED BY MAN'S INSTRUMENTS DOES NOT MEAN THAT THE DAMAGE NO LONGER EXISTS. IT MERELY MEANS IT CAN BE SEEN OR MEASURED BY MAN'S INSTRUMENTS. WHY? BECAUSE THE DOSE IS TOO SMALL TO BE SEEN OR MEASURED BY MAN'S INSTRUMENTS. WHY? BECAUSE THE DOSE IS TOO SMALL TO BE SEEN OR MEASURED BY MAN'S INSTRUMENTS. WHY? BECAUSE THE DOSE IS TOO SMALL TO BE SEEN OR MEASURED BY MAN'S INSTRUMENTS.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Kim J Adams, First: Kim, Last: Adams, MI: , Organization: , Street: Parkersburg Park, City: Parkersburg, State: WV, Zip Code: 26101

Tear at perforation

Response to Comments in Letter No. 38

From: Kim Jones Adams

Comment No.

Response

1 There is no bias towards the use of herbicides. The Draft EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Ozark and Ouachita Mountains methods other than herbicides are projected to be used on 75 percent of the total acres treated in the preferred alternative F in the Draft EIS (page II-12). The EIS simply shows that the preferred alternative, with its mitigations and inherent constraints, would improve treatment effectiveness with minimal adverse impacts. Furthermore, the determination of the most appropriate tool for a project must be made at the project level based on a site-specific analysis. A reasonable range of alternative methods, including the use of methods which do not involve herbicides, will be examined and evaluated, and IPM principles must be incorporated (Draft EIS pages II-38-41).

2 The EIS shows conclusively that alternative F improves the effectiveness and quality control of our vegetation management treatments while posing minimal risks to people and the environment (Final EIS sections IV.B through M). It causes no unacceptable environmental impacts. Application of least-risk herbicides at lowest effective rates using drift-control and safety measures and buffers (Final EIS section II.E.2.C), with 95 percent selective treatments in the general forest (Final EIS section II.B.6), poses minimal risks of adverse effects. Criteria for applying each method appear as mitigation measures (section II.E) and potential acres for each are shown in section II.B.

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

MANAGEMENT OF SEABIRD NATURAL FOREST

Comments on Scientific Analysis: JUNE 22, 1981 four former officials of Bio Test Laboratories were indicted by a Chicago Federal Grand Jury that they knowingly gave falsified information on the safety of the active ingredients of 218 pesticides & herbicides. How do we know that these tests are accurate?

Because of human nature, greed and the desire of the U.S. Government to get the most money out of Public Land regardless of the damage to the citizens health and welfare.

Comments on Alternatives: Selective cutting (no clearcuts) and letting the forest maintain itself naturally as it did hundreds of years before the USDA Forest Service existed. Management of undesirable underbrush by natural clearing instead of chemicals.

Why? With selective cutting there will be a continuous harvest of timber with the canopy of leaves shading out undesirable bushy growth. Manual clearing of underbrush has its risks physical injury but it is better than poisoning hundreds of people, wildlife and endangered species.

Not enough research on the effect on ground water contamination, herbicides entering the food chain by humans and being consumed by people, mutation and dissemination of plant genes. Burning of sprayed areas which produces other chemicals (dioxin?) in the incomplete combustion.

Because 20 years from now it will be too late to bring back the extinct species and cure the cancers in our children.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Kim Jones Adams - ~~XXXXXX~~
First: Kim Last: (Organization)
Street: Box 136
City: Parton AR State: Ark Zip Code: 72666

Tear at perforation

3 It is the Forest Service's intent to use lowest environmental risk methods in vegetation management as possible to meet its objectives. That is one of the reasons for having the Herbicide Risk Assessment (Appendix A) of the DEIS prepared. This process evaluated the proposed herbicides and was peer-reviewed by nationally recognized toxicologists to validate the process for testing.

4 Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

5 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

6 The analysis of areas that are treated with herbicides and subsequently burned discloses the Threshold Limit Values (indications of the lowest acceptable risk) of the smoke produced to be within an acceptable level to the forest worker and the public. Please see discussions on pages 5-31 through 5-34 of Appendix A, Volume II and pages IV-23-25, Volume I of the DEIS.



United States Department of the Interior
BUREAU OF MINES

P. O. BOX 25086
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Intermountain Field Operations Center

August 21, 1989

Mr. Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Georgia 30367

Subject: Draft Environmental Impact Statement (DEIS) for Vegetation
Management on National Forests of the Ozark/Quachita Mountains Area
of Arkansas and Oklahoma.

Dear Mr. McCorquodale:

Personnel of the Bureau of Mines have reviewed the subject document for possible adverse impacts upon mineral resources and/or mineral production facilities. The document deals with the techniques and practices of vegetation management to protect and improve forest health, wildlife habitat and range forage.

The region discussed contains mineral resources such as sand, gravel, limestone, sandstone, clay, novaculite and probably other mineral deposits. We have found no instances, however, where the prudent and judicious exercise of vegetation management described would adversely impact the mineral resources. We have no objection to the proposed project or the document as written.

William Cochran
William Cochran

Response to Comments in Letter No. 39
From: William Cochran

Comment No. Response

1 Comment noted.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

 REGION 6
 1445 FOSS AVENUE SUITE 1200
 DALLAS TEXAS 75202

AUG 22 1989

John E. Alcock
 Regional Forester
 USDA Forest Service
 Southern Region
 1720 Peachtree Road, N.W.
 Atlanta, Georgia 30367

Dear Mr. Alcock:

In accordance with responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), the Region 6 Office of the Environmental Protection Agency (EPA) has reviewed your Draft Environmental Impact Statement (EIS) for Vegetation Management on National Forests of the Ozark/Ouachita Mountains area of the United States Department of Agriculture (USDA) Forest Service Southern Region.

We understand that vegetation management is the manipulation of plants by means other than timber harvest for the purposes of promoting young tree survival and growth, providing a variety of wildlife habitats, reducing hazardous fuel and maintaining safe and efficient travel ways and utility lines.

The Draft EIS addresses the effects of vegetation management methods on human health and safety, wildlife, threatened and endangered species, vegetation, soils, water, aquatic animals, air visual quality, cultural resources, wildlife, recreation, and social and economic conditions.

The EIS presents eight alternatives to manage Ozark/Ouachita Mountains National forest land ranging from no treatment to maximum control. Alternative F is the Forest Service's preferred alternative.

In review of the preferred action, Alternative F should result in an improvement to water quality when compared to the current management method, Alternative C. This conclusion is reached from the following observations:

- (a) The use of high intensity prescribed burns are not permitted under Alternative F. This will reduce the potential for excessive runoff, erosion, and sediment.
- (b) The acreage treated by herbicides is significantly reduced resulting in less potential for contamination of surface waters.

-2-

- (c) The amount of acreage treated by mechanical methods decreases under Alternative F, reducing the potential for excessive runoff, erosion and sedimentation.
- (d) Broadcast application of herbicides under Alternative F is restricted to certain types of application, and then only when site conditions require them. Use of selective treatment of herbicides result in less potential for contamination.
- (e) No aerial application of herbicides is permitted under the preferred Alternative.
- Although the preferred plan will be a vast improvement over the current management practice, we make the following recommendations for your consideration and discussion within the Final EIS.
1. On page II-40, Section II.E.1.a.(3), the Draft EIS references Integrated Pest Management documents FSM 3400 and FSH 3409.11, which are not included for review. These references should be incorporated into the Final EIS.
 2. On page II-41, Section II.E.1.a.(4), the term "Best Management Practices" (BMP's) to protect water quality are not readily identified. Please describe these practices to allow evaluation for appropriateness and effectiveness. This information should be included in the Final EIS.
 3. On page II-48, Section II.E.2.a.(9) and (10), states that lakes, streams, and wetlands are used as fire breakers. We recommend that these practices not be permitted, as increased stream bank erosion and sedimentation can result from the destruction of filter strips. We recommend that the plan provide for filter strips of 30 feet plus 1.5 times percent slope along all lakes, perennial or intermittent streams, spring, wetlands, or water source seeps. This will protect the water quality and value of these sensitive waterborne resources.
 4. Page II-58, Section I.E.2.c(29), states that herbicide mixing, loading, or cleaning areas in the field will not be allowed within 200 feet of private land, open water, wells, or other sensitive areas. Sensitive areas should include intermittent streams, springs, and wetlands, as well as aquifer recharge areas.
 5. On page II-58, Section IV.G.1., regarding surface water protection, the Draft EIS identifies aerial buffers of 100 feet and in other areas as 200 feet. The 200 foot buffer is the appropriate limit and should be specified in the Final EIS.
 6. Regarding herbicide application, page IV-104, Section IV.G.1., states that herbicides may only be applied selectively on rock outcrops or sinkholes. We believe buffer zones should be applied to sinkholes to provide equal protection for ground water. Buffer zones of 30 feet for

Response to Comments in Letter No. 40

From: Robert E. Layton, Jr., EPA, Dallas, TX

Comment No.	Response
1	None of our references were included for review when the Draft EIS was circulated; all of the references were placed at Arkansas State University and made available to the public. These amount to several thousand pages (in total). If you desire copies of any references (especially FSM 3400 and FSH 3409.11) we'd be pleased to send copies to you.
2	Describing all Best Management Practices (BMP's) would be infinitely more detailed than this programmatic document is intended. However, on pages II-42, II-47 to II-49, II-51, II-52, and II-57 to II-59 of the Draft EIS we describe many BMP's in our mitigation measures. We are clarifying in the Final EIS that BMP's originate through State water agencies.
3	Draft EIS page II-48 does provide for these filter strips. It says that "low intensity fires with less than 2-foot flame lengths may be allowed to back into the strip." The research cited at the top of page II-49 shows that such light backing fires leave abundant litter and duff and permit only negligible erosion, especially compared to firelines located on steep slopes or erodible soils. Therefore, this measure affords the highest practical protection of water bodies from prescribed fire.
4	We agree. The key here is to recognize sensitive areas. Mitigation measure number 29 has been changed in the Final EIS to reflect your concern.
5	We agree. The buffer of 100 feet at the bottom of Draft EIS page IV-98 was an error, and has been changed to 200 feet in the Final EIS.
6	Recommendations of herbicide manufacturers are based on the assumption that herbicide will be applied at label rates using all label methods. All analyses in the Draft EIS suggest that applying any of our seven herbicides at our low rates (a fraction of the label rate) by selective means (directly to individual plants) provides full protection of karst ground water. By the time any herbicide might move from the treated plant, through the soil or over the rock, into the ground water, it would be diluted to negligible or undetectable concentrations. However, to increase the margin of protection we have strengthened mitigation number 5 on page II-54 of the Draft EIS so as to stress use of the lowest risk application method. Additionally, the Final EIS will increase our use of selective applications above those proposed on page II-12 of the Draft EIS.

-3-

pesticides application may be inadequate. The manufacturers of Picloram, recommends a buffer zone of 100 feet for known cavernous or otherwise fractured areas. Clarification on the appropriate buffer distance should be discussed in the Final EIS.

These comments on your Draft EIS classify your preferred Alternative as EC-2 (Environmental Concerns-Insufficient Information). We have identified environmental concerns with methods of herbicide and pesticide applications and have requested additional information and clarification to address these issues.

Our classification will be published in the Federal Register according to our responsibility to inform the public of our views on the proposed Federal actions, under Section 309 of the Clean Air Act.

We appreciate the opportunity to review the Draft EIS. Please send our office five copies of the Final EIS at the same time it is sent to the Office of Federal Activities, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

Sincerely yours,



Robert E. Layton Jr., P.E.
Regional Administrator

KENNETH O. CARTWRIGHT
Consulting Engineer, Retired
Power Systems
(818) 244 2369

910 Rasic Ridge Road
Glendale, CA 91207
August 28, 1989

USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

Gentlemen:

I find myself in a quandary as to how to respond to your EIS on Vegetation Management in the Ozark-Ouachita Mountains. The documents are long and complex, and I am not well enough informed on much of the material to make valid comments. Some of my preconceived ideas will undoubtedly come through in my comments. In any case, I can only address a few issues.

My first issue is the use of herbicides, to which I am strongly opposed. I am not reassured by the statement on page x about 'methods that pose minimum risk to humans, wildlife, and non-target plants'. The 'minimum risks' are quantified to some extent, but the data are not reassuring. It is clear that large spills occur. What are the consequences of such spills? Furthermore, I found no mention of groundwater contamination. It will almost certainly occur, and when it does, the damage is irreparable.

Next, I am confused by the data on the areas to be treated annually. It would appear that the areas of site preparation should relate to the areas harvested. I looked for data on this in the land management plan I have for the Ouachita Forest and it appears that annual sales there would approximate the numbers given for both the Ouachita and Ozark Forests in this vegetation management EIS. I don't have any data for the Ozark forest but the areas to be harvested there must be more than 1300 acres evenage and 700 unevenage.

I note that you project (page II-10) more than 58000 acres to be treated by fire annually. You must be aware that this has to be a concern for air quality. We are criticizing Brazil for burning the Amazon forests and doing the same thing ourselves, even though on a smaller scale. Why is this necessary?

We have owned a little bit of the forest for almost forty years now and I have a special feeling for the place. One of my more pleasant memories is the one of sitting on the porch of the little house my father had built on our place on Brushy Creek on a warm August afternoon. The wind began to build up as a thunderstorm approached, causing the leaves to flutter down from the huge old walnut tree in the yard. Then it began to rain--

Response to Comments in Letter No. 41

From: Kenneth O. Cartwright

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in content analysis of all comments received. We did evaluate possible spills; see pages IV-20 and IV-83 of the Draft EIS, especially. Mitigation measures 27-32 on page II-58 are required to minimize adverse effects from accidental spills. Appendix C contains detailed discussions of potential effects to groundwater. Further discussions are in part G of chapter IV.

The Draft EIS analysis examined a range of potential effects from spills by evaluating dumps of 5 gallons (a typical container size) into a 1-acre pond and 100 gallons (a full helicopter tank) into a 16-acre reservoir (volume II, appendix A, pages 4-67, 5-30 to 5-31, 7-12 to 7-13, and 8-22 to 8-43). Risks are higher for the pond spill, which we think represents a reasonable worst case since the pond is assumed to be stagnant with no chance for the turbulent mixing and inflow dilution that prevail in streams and rapidly reduce peak concentrations downstream. There has never been a recorded case of an accidental spill into any stream in the Southern Region, but we have mitigation measures requiring strict controls to avoid the occurrence of such rare spills and to quickly contain and clean them up (Draft EIS page II-58).
- 2 Data presented in the table in the middle of page II-12 of the Draft EIS represent composites for both forests. Total even-age site preparation is estimated to be 10,300 acres; uneven age is 15,700 acres.
- 3 Possible effects on air quality are discussed in part H of chapter IV. Additionally, mitigation measures 12 and 13 on page II-49 of the Draft EIS establish standards which avoid some potential effects.

The areas proposed for prescribed burning are mostly the areas previously burned to protect against hazardous fuel build-up and for wildlife habitat improvement. This amount is less than 1 percent of the total area.

lightly at first and then the downpour. I just sat there and soaked it all in. The Ouachitas can be even more beautiful and inspiring than they are now if your work is properly approached, that is, with a profound respect for the land and all the forms of life it supports.

Sincerely

Kenneth O. Cartwright
Kenneth O. Cartwright

September 1, 1989

Dear Forest Friends:

I am responding to the card about extension of the Vegetation Management EIS. I am most familiar with pine-trees in the Ouachita Forest.

There are two practices I find most troublesome: controlled burns done on days the forest is tender dry and wind is blowing 10-15 mph. And no rural people informed that this will be done.

The other is the use of growth retardant chemicals on hard-woods in a clear cut. I can see the feasibility of that practice on one of Meyerhauesser's tree farms but not, NOT, I say, in national forests whose preservation of a diversity of species should be one of your top priorities.

Sincerely,
May Ann Jacobs

Response to Comments in Letter No. 42

From: May Ann Jacobs

Comment No.

Response

- 1 We agree. Mitigation measure No. 1 on pages II-46 and 47 of the Draft EIS requires that fuel conditions and winds be considered when planning prescribed burns. Additionally, other Agencies and persons who may be affected are notified.
- 2 Various sections of chapter IV discuss effects of each vegetation management method on species composition. The discussion of herbicide effects on species composition is on pages IV-56 and 57 of the Draft EIS. A gross generalization is that broadcast treatments of any sort (fire, mechanical, biological, or herbicide) tend to reduce variety. The theme of alternative F 1s to stress selective rather than broadcast treatments (see the table at the bottom of page II-12, Draft EIS). The treatments you reference for clearcuts represent less than 20 percent of all herbicide treatments proposed. Also, mitigation measures in section E of chapter II of the Draft EIS are required before herbicides and other methods are used. Mitigation measure No. 1 on page II-38 of the Draft EIS requires that an alternative that does not use herbicides be considered when site-specific analysis are done.

8115 Westwood
Little Rock, Arkansas 72204
September 5, 1989

USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

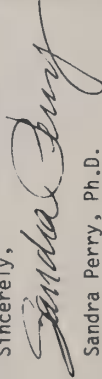
Dear Mr. Alcock:

I have reviewed the Environmental Impact Statement for vegetation management on the national forests in the Ozark/Quachita Mountains and have the following concerns:

1. Vegetation management should not be used to increase pine production at the expense of diversity.
2. There is not enough information on the long-term effect of herbicides on humans. Use of animal models is not adequate for determination of safety for certain chemical compounds. The effect on humans cannot reliably be extrapolated from animal models. For example, dioxin is lethal to guinea pigs but humans show little effect from dosage. In other cases involving different chemicals, the reverse is true. At this time, there is insufficient scientific evidence to evaluate the lifetime cancer risk to humans from herbicides.
3. There should be consideration of non-timber values such as aesthetics, threatened or endangered species, and water quality.
4. The national forests were not intended to be used to provide employment or to further such social objectives as education.
5. Public lands should not provide cheap pines for private timber companies. Pulpwood in the national forests should not be sold to the paper industries at a small fraction of its fair market value, as is currently being done. I am outraged that these public lands are being destroyed for private profit.

6. For all of the above reasons, I am opposed to Alternative P and Alternative W which propose massive clear-cutting. I propose that a no-action alternative be used so that vegetation in the National Forests can grow without manipulation. Alternative A (a no-action alternative) will also protect water quality which is compromised by all the other alternatives.

Sincerely,


Sandra Perry, Ph.D.

Response to Comments in Letter No. 43

From: Sandra Perry

Comment No.	Response
1	Part C of chapter IV, pages IV-30 through IV-62 of the Draft EIS, contains discussions of effects on species composition from each of the methods. Mitigation measure number 1 on pages II-38, and 39 of the Draft EIS requires consideration of vegetation diversity for all project proposals including those devoted to pine management.
2	Analogy is a standard scientific method used to predict effects where there are incomplete or unavailable data. Modeling of effects from known information was done in all cases where scientific data were unavailable. Risks identified in this process are disclosed and considered in our analysis. Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Based on data presented in the Risk Assessment this concern was not felt to pose a reasonably foreseeable potential for causing significant effects. While continuing to monitor the scientific literature we have as yet no evidence to suggest that there is a legitimate concern in this area.
3	Mitigation measures and management requirements on pages II-38 through II-59 of the Draft EIS require actions that ensure consideration, enhancement, and protection of all resource values.
4	National forest programs and activities, in fact, do provide employment whether intended or not. Some people are very interested in this level of employment, and the effects our proposals have. As a minimum the Council on Environmental Quality Regulations, 40 CFR 1508.8 require consideration of social and economic effects. The comment regarding education is beyond the scope of this analysis.
5	Timber values and the sale of timber products from public lands are topics which are outside the scope of this analysis.
6	Your statement in opposition to alternatives P and W of the supplemental analysis for the Quachita National Forest's Land and Resource Management Plan was forwarded to the Forest Supervisor for his consideration. Your preference for alternative A was included in the content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I liked the format of the Draft Environmental Impact Statement.

Why? The format contained a good summary, and details if doing could be found if desired in the nice table of contents.

Comments on Alternatives:

I prefer Alternative D

Why? I think it is of utmost importance to manage our forests and ecosystems without dangerous herbicides and chemicals. Alternative D is also relatively low cost and provide jobs through manual labor. I wish I could have had an outdoor job of this type when I was in college (during the summers).

Other: manual labor. I wish I could have had an outdoor job of this type when I was in college (during the summers).

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
4333 Chickasaw Dr.
Street Huntsville, AL 35891
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 44

From: Sam A. Denham

Comment No.

Response

- 1 The Interdisciplinary Team is pleased that you feel the EIS is well organized and contains sufficient detail.
2 Your preference for alternative D was included in the content analysis of all comments received. Your preference for methods which do not use herbicides was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Done quite thoroughly

Why?

Comments on Alternatives:

Alternative D is my selection

Why? Least amount of impact on the environment, wildlife and human inhabitants both residential and visitors.

Other:

Why? Herbicide research shows more and more daily the ill-effects and potential build-up to water sources and people. Statistics are showing high cancer risks to children from the farming belt. Little ranching on National forest land is detrimental (use additional sheets as necessary) to wildlife.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Zoe L. Caywood
Street: Rt 5, Box 411
City: Rogers, AR State: AR Zip Code: 72756

Tear at perforation

Response to Comments in Letter No. 45

From: Zoe L. Caywood

Comment No.

Response

- 1 The Interdisciplinary Team is pleased you feel the EIS is thorough.
2 Your preference for alternative D was included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled.
3 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
4 The Range Program was evaluated in the Forest Planning process and not in this EIS. Only the effects from using grazing as a direct means of vegetation control were analyzed in this EIS.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The analysis was very complete, but seemed to be overkill

Why? The comments that seem to make all government agencies spend too much money and more time on studies. Time and money that could be well spent on or needed programs.

Comments on Alternatives:

Alternative H

Why? It gives the timber mills the widest range of programs to improve timber and preserve watershed which should be the main goal of the Forest Service.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Thelma & Louis GREGGORE
Name: First MI Last (Organization)
HCR 30 Box 69
Street
PEARSON AR 72856
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 46

From: Thelma & Louis Gregoire

Comment No. _____ Response _____

- 1 The Interdisciplinary Team is pleased that you feel the EIS is a complete analysis. The EIS was done to comply with Regulations, that is to evaluate and disclose possible effects from proposed actions.
- 2 Your preference for alternative H was included in the content analysis of all comments received.

USDA Forest Service
1730 Peachtree Rd, NW
Atlanta, Ga 30367

Arkansas Plant Study
% Duane Kuchelbaugh
Environmental Research
P.O. Box 499
Marshall, Ark
72650

Sirs:

Enclosed you will find
my reply and suggestions
as to the proposed Vegetation
Management in the Exhult
Ocedachite Mountains of June
1989.

My professional responsibility
leads me to support one of the
suggested alternatives. My
personal attitude is that
we need more research
before we can accurately
address the possible
consequences of this ~~or~~ any
management plan. The
following is my arguments -
page 1 of 10

Alternatives Choices: page 2 of 10

1 I strongly support program A + B as the only possible alternatives that attempt to be a keeper of public lands and its diversity in animal and plant species. Most importantly, these programs do offer sufficient manual controls to maintain certain ecosystems or land endangered sensitive plants and animals within our public lands.

My support for these alternatives is as follows:

2 A. Mechanical methods
None should be used!
Studies done on soil compaction factors - horses to large equipment - have all proven to have adverse effects on vegetation when under limited application
a. USDA has been supporting

Response to Comments In Letter No. 47

From: Diane Radabaugh

Comment No. Response

1 Your preferences for alternatives A or B were included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.

Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2 The Draft preferred alternative uses only low- to moderate-disturbance mechanical tools, which in many cases equate to the variety of tools used in no-till agricultural production. We discuss possible compaction effects on pages IV-92 through IV-94 of the Draft EIS. Additionally, we have imposed mitigation measures 1 through 8 on pages II-51 and II-52 to afford further protection.

" until methods since ^{page 3 of 6}
the early 1950's.

2- Mechanical methods even
carefully or limited in
application - despoys
desired species of
plants and smaller
animals -

a. This fact is contrary
to the purpose of
all our public lands.

3- Mechanical methods
are more easily applied
to large scale use -
a. Controls should
always be for the
smallest possible
area use to minimize
damage

4- Mechanical methods promote
the use of larger companies
vs smaller private companies
or even volunteer workers
a. U.S. Bureau of Land Management
the promotion of small business

page 46/1c
6

B. Prescribed Fire - Burns

1. No forest is without

burns even in a
pristine virgin state.
Because of naturally
occurring fires.2. I recognize the need
of certain controlled
burns to maintain
sensitive ecosystems
or endangered habitats ^{ONLY}a. These burns should
be site-analyzed
no matter how small,
for research reasons.3. All Burns should be
site-analyzed prior to
burn even if no sensitive
species are known to
exist4. All Burns should be set
by manual methodsa. to insure the least
destructive effect upon
plants-animals - 9 had
a re checked3 We agree. Mitigation measure 1 on pages II-38 and II-39 and mitigation
measure 1 on pages II-46 and II-47 of the Draft EIS ensure site-specific
analysis.4 Setting prescribed fires by other methods than by hand may be used
effectively and safely in certain situations. Ignition tools should be
selected based on project objectives, site conditions, and safety
requirements (see page II-19 of the Draft EIS). However, because of the
small size of most prescribed fires, hand ignition methods are used most
of the time.

page 5 of 10

C. Manual methods:

Is the preferred method of management considered in all circumstances.

1. Least long term impact in a controlled area.
2. Least destructive to the desired plants and animal in a given area to be controlled
3. Promotes the hiring of small companies paid the use of volunteers -
4. Manual methods "man control factor" has come to an important position in agricultural methods in the last 15 yrs.
 - a. Most all oldy [EARTH] landscapes forest were originally started or maintained by this method - from Johnny Apple seed to the gardens of

Your preference for use of manual methods was included in content analysis of all comments received. See our response to comments in Letter No. 23, Comment No. 2 regarding employment. For many tasks manual method is the best method; however, situations where stump sprouting is a problem, where hazard fuels exist, or where grasses exist, manual methods are not practical.

page 6 of 10

Europe to the old dominating
that is now National
Forest. How can we
maintain or "improve"
an environment or plant or
animal - if little is
currently known about
the effects we have
already set in motion.

6 5. All factors of present
ecological base + plants +
animal systems should
be completely researched
& documented before further
attempts are made to
apply methods other
than manual -

7 a. Questions of introduced
species (plant + animal)
must be addressed
such as: the introduced fish
or plant species and
other - heretofore plant
varieties or acquired land

6 Regulations in 36CFR 219.28 require an ongoing process of identifying and prioritizing research needs. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act recognize that all necessary data may not be available and that management may continue as research is done. Monitoring specified in section II.E (pages II-35 to II-54 in the Draft EIS) should assure that adverse impacts are observed and regulated. Mitigation measures on pages II-38 through II-59 of the Draft EIS should assure that adverse impacts are held to a minimum.

7 Introduced species are covered by this EIS only to the extent that they are dealt with through vegetation management.

page 7 of 10

P. Herbicides

1. et recognize the economic advantage of this process
 conduct method not personally
 subject to any case

on public lands.

a. The most tested

products still

lack data when

it comes to possible

long-term effects

upon animals - plants -

humans.

b. Risk of desired plants

and animals being

affected is too high

even if minimized or

negligible in my personal

opinion.

c. All sites where proposed

herbicide treatments are

to take place - I should

be site analyzed and

competed documented;

no matter the size of area

to instrument of control.

8 Your objection to the use of herbicides was included in content analysis of all comments received. Your preference for methods which do not use herbicides was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages 11-52 to 11-59 of the Draft EIS) are enforced as we require.

9 We agree. Mitigation measure 1 on pages 11-38 and 11-39 of the Draft EIS ensures site-specific analysis.

E. Balance between
 1 - Favor Non-Market use
 a. Lands should not
 be managed to create
 a salable product
 even recreation!

page 8 of 10

10

2 - No treatment for salable
 timber products should
 be allowed.

a. Money spent (in any
 form) to produce or
 support even-stands
 timber for market
 is being misdirected
 from the rightful
 purpose of our
 public lands.

3. Favor recreation to a
 limited or semi-primitive
 state

a. Private should be given
 to maintain species diversity
 and ecosystem OVER
 recreation, however.

10

Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are defined in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining, and road construction. A more contemporary statement of purpose is found in the Multiple-Use Sustained-Yield Act of 1960 (74 Stat. 215, As Amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Your concerns are all addressed in each Forest Land and Resource Management Plan and are beyond the scope of this EIS.

Scientific Analysis: page 9 of 10

This is difficult to accurately address due to lack of data in certain areas. Introduced species questions - long-term herbicide effects - "man control factor" questions (and data)

Perennial and scientific observation, however, show some serious flaws and combinations of methods that have been permitted - at sea no data - figures - or combination of methods to cover the "man control factor"; the following combinations

- 1- No herbicides
- 2- No mechanical
- 3- No Burn (set)
- 4- Manual methods only

No agricultural area (part included) is now or in past 100% free of "man control or establishment factors". This need to fully understand already with herbicide. Sequences - 1/10

Page II-1 of the Draft EIS also lists five guidelines for alternatives. Eight alternatives were developed in response to issues and management needs, such as meeting objectives of Forest Land and Resource Management Plans. Five others were considered but eliminated from detailed study (see pages II-17 and II-18 of the Draft EIS). The Interdisciplinary Team felt that these gave a full range from which to analyze the environmental effects and respond to public issues as disclosed in chapter IV and summarized on pages IV-130 through IV-147 and pages II-59 through II-75 of the Draft EIS.

The effects of "no herbicides" were analyzed in alternative D. The effects of "no mechanical treatments" were discussed in alternative A and to a large degree in alternative E where over 70 percent of mechanical treatments were restricted to rights-of-way. The effects of "no fire" were also discussed in alternative A. A "manual methods only" alternative was not analyzed in detail because it does not meet all the criteria for alternatives listed on page II-1 of the Draft EIS. For example, there is no practical substitute for treating hazard fuels other than prescribed burning.

been seen in all scientific ^{page 10 of 16}
 communities and the world.
 The realization that there
 is a broad missing link
 in our data may prompt
 the recent studies of
 primitive people and their
 survival/agricultural
 practices (studies done on
 "fire dependent ecosystems of
 the Australia outback"
 in 1987 were co-sponsored
 by international scientists
 including the USA)
 elicits that, far more
 informant and data
 on present systems is
 needed. before we have
 an accurate & complete
 composite story of what
 present + past methods
 (both along future practice)
 have already set in
 motion.

WILLIAM L. WEBB Ph.D.
1935 Village Lane
Naples, Florida 33963
(813) 566-8601

Mr John E. Alcock, Regional Forester
USDA Forest Service
1720 Peachtree Rd., NW
Atlanta, Georgia 30367

Dear Mr Alcock:

I have carefully studied your DEIS for Vegetation Management in the Ozark/Ouachita Mountains (Management Bulletin R 8 MB 23) and find it NOT ACCEPTABLE.

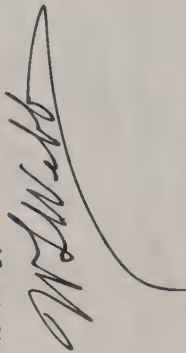
I am sorry to reach this conclusion because the information that is included is generally well done and the conclusions drawn appear to be supported by the facts.

1 HOWEVER, This DEIS completely omits the most significant vegetation management measure : TIMBER HARVEST ! That omission, it seems to me, makes this whole effort a waste of time.

I was a member of the seven-member Committee-of-Scientists which helped to draft the original NFMA Regulations. If memory serves, I was the member who first suggested that a section on vegetation management be included in each forest plan. That was intended to make certain that all forms of management were considered and their inter-relationships evaluated. In our Committee discussions there never was any suggestion that timber harvest could be separated since it is the most drastic of all vegetation management methods. This is like an analysis of the effects of venereal disease on the human race, with no mention of the relation of men to women !

I believe you need to conclude that this DEIS is incomplete until timber harvest is integrated into the analysis.

Sincerely,



Response to Comments in Letter No. 48

From: William L. Webb

Comment No.

Response

1 As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and as such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1. long term and cumulative effects of herbicides use on the food chain, ground water and air pollution from burning of treated wood are not known and not considered. Why? in herbicide use proposals. No consideration given to rapid dispersal of herbicides into ground water thru sink holes. Releases on sale" levels based on manufacturers recommendations and EPA standards has been repeatedly described. Comments on Alternatives: Only alt. D, NewA modified, removed away, low intensity methanols, and the methanols and integrated part mgmt. Included alt. A offer a better able, environmental sound Why? system of management. Remember, the Forest Service was established to preserve and protect the existing national forests for future generations.

2. Other: With the current crisis of the ozone layer and "greenhouse effect" coupled with the rampant destruction of tropical rainforests, some consideration should be given to the preservation and advancement of northern forests for their extreme importance as CO2 sponges. Preservation of the world's forests is critical to the preservation of human health.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: John H. Neal
 First: John Last: Neal (Organization)
 Street: 233 Dead Horse Mt. Rd.
 City: Fayetteville, Ar. State: Ar. Zip Code: 72701

Tear at perforation

From: John A. Neal

Comment No. Response

- 1 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
 - 2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
 - 3 Possible effects from burning treated wood are discussed in appendix A, page 4-61 and in chapter IV, pages IV-23 through IV-25 of the Draft EIS.
 - 4 None of our evaluated herbicides should exceed concentrations of 0.050 ppm in buffered streams or 0.025 ppm in even shallow ground water when applied at the low rates and frequencies we require (Draft EIS pages II-10, II-53, and IV-98 to IV-106). We nonetheless recognize the need for more research in this area (Draft EIS page IV-147-148).
 - 5 Potential effects on groundwater are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.
 - 6 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
 - 7 Your preference for alternative Modified D has been included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

6

Mitigation measures on Draft EIS pages II-46 to II-51 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Ozark/Ouachita Mountains. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-116 to IV-124).

Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215, ■■ amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: The analysis was very factual and backed up by adequate data, except regarding the long-term effects of herbicides. However, the importance of esthetic considerations was grossly undervalued.

Why? I do not think people realize that the other stands of hardwoods in the Ozark Noel Forest are really a rarity, and that only very much of the White Pine is a national treasure.

Comments on Alternatives: I favor alternative B - however, I wish you had offered an alternative that aimed at achieving minimum resource objectives, without the use of herbicides.

Why? I believe the long-range effect of herbicides has not been studied enough to predict with certainty what these effects will be.

Other: I believe the hardwood forest of Ozark Noel Forest will be discovered to be a much more precious resource than people regard it as now, and that

Why? From both an economic and aesthetic viewpoint it is advisable to leave it as much as possible in an untouched state, relying for wood products on the present pine tree farms.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
 Lloyd T Ziegler
 Box 121 Star Rt 2
 Street
 City State Zip Code
 BRAXX AR 72944

Tear at perforation

Response to Comments in Letter No. 50

From: Lloyd T. Ziegler

Comment No.

Response

- 1 Visual quality effects are discussed in part J of chapter IV. Mitigation measure 1 on pages II-38 and II-39 of the Draft EIS requires that visual quality is considered during site-specific analysis. Additionally, mitigation measures 15 and 16 on pages II-43 and II-44 of the Draft EIS establish standards which must be achieved during project implementation.
- 2 Your preference for a modified alternative B was included in content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 3 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined in section E of chapter II. Mitigation measure 1 on pages II-38 and II-39 of the Draft EIS also requires that when a project is proposed the site-specific analysis will consider an alternative which does not use herbicides. Our evaluations of long-term risks are found in appendix A, Appendix C, and chapter IV of the Draft EIS.

H.R. 67, Box 50
 Waldron, AR 72958
 Sept. 17, 1989
 RE: Comments on
 Vegetation Management
 DEIS

Mr. John Alcock, Regional Forester
 USDA Forest Service
 1720 Peachtree Rd., N. W.
 Atlanta, GA 30367

Dear Mr. Alcock:

What follows is our comments regarding the Vegetation Management DEIS and criticism of appendices A and C specifically.

C A. Overview

Attached is a copy of our letter to Mr. Curran of the Ouachita National Forest in reply to his letter of July 14 in defense of herbicide use. You may take this as our "global view" on the use of any unnecessary chemicals anywhere by anyone in the name of economy. Since practical alternatives to herbicide use for the control of vegetation exists, we support Alternative D of the DEIS rather than the Forest Service preferred F. Alternative B would be our second choice since it greatly reduces reliance on herbicides.

C B. Experimental Limitations

The experimental data cited in the DEIS were for the most part taken from chemical manufacturers research or studies funded by them. Sources of error would include:

1. Bias of Investigators Historically this research has a bad track record. Many chemicals once considered safe because of manufacturers data were later proven unsafe. The herbicide 2, 4-D is only the latest case in point.
2. Small Sample Size No data on the number of animals used to test each aspect of each herbicide is given but from the percentages of reactions and the numbers of positives and negatives one is led to infer such results are based on experiments with relatively small numbers of animals.
3. Species of Test Animals The vast majority of tests were with small rodents. Some canine, bovine, and fowl data were included. Experiments with primates, which would have greater applicability to human toxicity, were not performed, presumably due to cost. And our natural repugnance at using human volunteers to test these chemicals leads to the ironic result that they are approved and released to be tested involuntarily on all of us.
4. Sensitivity of Tests Herbicide retention and residues were tested to a level of 1 mg/kg or 1 part per million (ppm). Anything less was considered non-existent. This can skew results by showing the harmful effects of part per billion (ppb) or part per trillion (ppt) as being "normal" or "background" levels.

Response to Comments in Letter No. 51

From: Jane & Al Brooks

Comment No.

Response

- 1 Your preference for alternative D has been included in the content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.
 Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
 Use of 2,4-D is not considered in this EIS. The health information found in appendix A, however, suggests the potential for low-risk use of that herbicide based on 50 years of research.
- 3 The number of animals evaluated in each experiment is reported in the original research which is summarized in this EIS. Toxicological data accepted by EPA must conform to EPA's published protocols for research. Statistical reevaluation of EPA's protocols is beyond the scope of this document.
- 4 We agree that the available data set for wildlife testing and for human surrogates is, of itself, inadequate. However, analogy is a standard scientific method used to predict effects between species. Modeling of potential effects from known information was done in all cases where species specific information was unavailable.
- 5 Retention by test animals at any level would be compared to unexposed control subjects. While retention at presently undetectable levels can be postulated, determining that a treated vs untreated animal effect is "background level" is not a probable research outcome.

6 2. Dosages Normalized to Body Weight Tables such as 6-2 do not support the thesis that acute effects can be predicted by dose per unit body weight between different species. Yet the bulk of the tests are done with mice and both the harmful and safe levels for them are magnified by the ratio of human weight to mouse into the dosages considered both harmful or safe to humans.

7 C. Inadequacy of Experiments As stated in App A, page 1-9, gaps exist in our knowledge of herbicide toxicity. Many of these gaps are not trivial, but the DEIS analysis attempts to fill them by the following ploys or omissions:

8 1. Chronic Effects Inferred From Acute Tests The majority of the data relates to acute effects. In some cases the extrapolation of acute tests to chronic effects is done by analogy to tests of other chemicals.

9 2. One Chronic Effect Inferred From Other Chronic Test Where experimental data exists on fewer than all the chronic effects considered i. e. carcinogenicity, teratogenicity, reproduction, and mutagenicity, results from one chronic experiment were extrapolated to provide "answers" for the others.

10 3. Breakdown Products No breakdown products of any of the herbicides are identified and so their potential hazards are not explored.

11 4. Synergism Effects of exposure to more than one herbicide are dismissed based on a faulty probability analysis that concludes that double exposures are highly improbable. Ignored are the chemicals that have a high probability of residing in humans when they are exposed to herbicides. These could include singly or in combination: nicotine, caffeine, aspirin, alcohol, aminhistamines, artificial sweeteners, insect repellents, and a variety of prescription, over the counter, and other drugs.

12 D. Flaws in the Analysis Some misuse of logical or mathematical technique tend to lend more weight than is merited to conclusions based on scant data.

13 1. Massaging Data App A, page 3-43 shows how three lab results can be used to construct a curve from which cancer probabilities can be precisely read. Precision gives a false impression of accuracy. After further manipulation of the data for probability of exposure, typical dosage, margin of safety, etc., numbers are presented in table 5-26 for lifetime cancer risk. No matter how many mathematical procedures are applied, these conclusions are no more accurate than the original source data.

14 2. Conservative Bias and Margin Of Safety Introducing a "conservative bias" in an attempt to compensate for a shaky data base is like allowing a blind person to use your car if he agrees to drive slowly. If one is not sure what a safe level for a drug is, using one-tenth of a presumed safe level should not inspire much confidence.

15 3. Misuse of Probability You can not multiply the random probability of two single exposures (App A, page 5-46) to arrive at the probability of exposure to two herbicides since the second exposure requires a higher probability for someone who has already demonstrated that he's in the right place at the right time.

6 We are unsure of the concerning being expressed in this comment. In table 6-2 the values for LD50 are presented as toxic doses in milligrams of the herbicide per kilogram of body weight of test animals.

7 Discrepancies observed are a result of physiological differences among test species and these differences are the basis for selecting surrogate animal species data as presented in section 7 of appendix A. Relative to humans, rats are the generally accepted analog except for specific responses such as dermal or eye irritation when rabbit is used.

8 Data is presented in the human health summary (section 3, appendix A) for both chronic and acute effects. For wildlife, an EPA standard based on acute effects was used in lieu of a complete data base on chronic effects.

9 This statement is true if you substitute "... estimates for answers. This process is called analogy.

10 The Draft EIS is prepared to conform to the requirements of the National Environmental Policy Act. Certain decisions about where to put information were made within the framework of the CEQ Regulations. Thus chapter I presents the process; chapter II presents the alternatives; summary information about the tools proposed for use, and conclusions from the analysis (mitigations necessary to cause an acceptable degree of risk), and a (conclusion again) comparison of environmental effects; chapter III presents environmental background; and, chapter IV presents the analyses by environmental element potentially affected and a summary of impacts by alternative. When an alternative is selected, the selection is disclosed in a Record of Decision. Along with the selection there is a discussion of the decisionmaker's rationale. A Draft EIS does not disclose selection, just preferences; thus no rationale for a decision are discussed.

11 Breakdown products of toxicological concern have not been demonstrated for the seven herbicides considered. Thus no probability of significant environmental impact was identified requiring discussion (per 40 CFR 1502). (See appendix A, sections 3 and 4).

12 Current medical records of the Forest Service which include all worker injuries and reports of occupational health damage show no apparent synergism. No evidence of probable significant impact was seen. Discussion is consistent with that level of probable impact (40 CFR 1502.22).

13 Non-dimensional graph on page 3-43 of appendix A actually shows clearly how a linear model used to project effects from high dosage data will overestimate hazard. Thus, in opposition to commenter's point, this illustration further shows the conservative (favoring human health) nature of the analysis being reported.

14 Analogy is a standard scientific method used to predict effects where there are incomplete or unavailable data. Modeling of effects from known information was done in all cases where scientific data were unavailable. Risks identified in this process are disclosed and considered in our analysis.

15 The formula presented on page 5-48 of appendix A allows for this concern to be adequately numerically reflected.

4. Small Difference of Large Variance Since large doses were given to test animals, even an excretion rate of 9% (or even 100% within the limits of accuracy) could mean a relatively high concentration remaining in the organism (table 3-4). More germane would be tissue retention (mentioned on page A3-27) which data is not presented.

5. Misuse of Logic Because the tolerance for contamination of milk with herbicides is high, it does not logically follow that high herbicide contamination should be tolerated in other parts of our environment. Also, since salt, which contains a mineral necessary to life (in small quantities) has an acute toxicity in the range of some of the herbicides, should we trust in the harmlessness of these unnecessary chemical compounds in the same way we trust table salt.

6. E. Economics of Herbicide Use It is argued that herbicides are the cheapest means for vegetation control. Costs are usually calculated by adding purchase price of the chemicals and the labor cost of application. Not included are costs of the following:

1. Research Cost for doing adequate studies and research to assure the safety of the chemicals chosen.

2. Monitoring of Personnel Long term health records of all Forest Service employees using herbicides should be kept. Follow up studies should be made even on people who leave the employ of the Forest Service.

3. Primate Experiments Unfortunately, some primate experiments would be needed even if only to verify the relevance of the rodent data.

4. Site Monitoring Until the theoretical models of chemical migration, dilution, breakdown, half-life, exposure, tissue retention, etc., are confirmed by empirical data, much on-site testing of soil, water, foliage, fish and animal tissue needs to be done at each large scale use.

5. Hidden Production Costs Costs of accidents and pollution in the manufacture, transport, and handling of these herbicides and the component chemicals needed for their manufacture.

6. Public Health The cost in terms of public health if these herbicides are not as benign as thought, are inestimable.

7. Conclusions Since doubts remain about the safety and cost effectiveness of herbicides and feasible alternatives exist, we support Alternative D of the Vegetation Management DEIS. We know we are asking the Forest Service to employ a degree of cautious foresight that the human race has thus far been incapable of. But as a wise native American has said, "We are not given the land by our ancestors, we borrow it from our descendants." Prudence with our environment must start here and now.

Sincerely,

Jane and Al Brooks

14 At present, there is no evidence that the seven herbicides evaluated bioaccumulate. No evidence was found in the literature which suggested true tissue retention/storage. Thus, rate of elimination (not hypothetical but undemonstrated tissue retention) was explored.

15 This EIS demonstrates only an extremely low probability of any (and then very low level) contamination from the herbicides proposed for use.

16 Research is done on all vegetation management methods. Much of the necessary research on herbicides/health is done prior to registration and is incorporated in the price of the product. Further evaluation of herbicides should cost proportionally less than other methods due to this previously documented data base.

Points #2-5 are necessary concerns for all methods of vegetation management, and where technology is available, are covered in "monitoring" requirements - for each method.

Point #6 is speculative and there is no data to support this argument.

17 Your preference for alternative D has been included in the content analysis of all comments received.

MCR 67 Box 50
 Waldron, AR 72958
 Sept. 15, 1989
 Re: 2500/2150, your
 letter of July 14

Mr. John Curran, Supv.
 Forest Service, USDA
 Hot Springs, AR

Dear Mr. Curran:

Attached are our comments and concerns regarding the Vegetation Management DEIS and specifically its Appendices A and C. Our comments are an attempt to rationally evaluate the research and analysis in the DEIS and explore the true cost of the use of chemicals for vegetation management. But the issue has its emotional dimension as well, and its scope reaches far beyond the one and a half million acres of the Ouachita National Forest.

Our society now, as never before, prays at the altar of the "bottom line", i.e. each manages his activities to minimize his own costs and maximize his profits, no matter what the cost to others. And so, as individuals, we are all assaulted from every direction by the consequences of this philosophy. A few examples will illustrate the problem:

1. By using large machinery, monoculture, and chemicals, farmers poison our food supply and squander the nation's soil.
2. By using profits to lobby against emission standards instead of investing in reducing pollution, smokestack industries and automakers poison our air.
3. By discharging raw sewage and dumping garbage rather than recycling, municipalities poison our groundwaters, waterways, and oceans.
4. By the unnecessary step of bleaching paper during its manufacture the paper industry poisons with dioxins, the packages that contain our food, the filters for our coffee, and the disposable diapers in contact with our infants.
5. By its laxity in enforcing existing environmental legislation and in the cause of "getting the government off our backs" the administration is an accomplice in these poisonings.

So what can a semi-retired couple living on a farm surrounded by the Ouachita National Forest do to respond to these global problems? Only small things like:

1. Assuring that the cattle we raise at least leave our farm free of hormones and toxic chemicals.
2. Trying to convince our nearest neighbor, the Forest Service, that abandoning the use of toxic chemicals will make life safer and healthier for all of us.
3. And occasionally using emotional words like poison in an attempt to alert an apathetic public to the dangers.

We appreciate that you are relying on these chemicals less than in the past and look forward to further reductions.

Sincerely,
 [Signature]

HEK 67 Box 50
 Melton, Arkansas
 October 27, 1989

USDA Forest Service
 1720 Peachtree Rd., N. W.
 Atlanta, GA 30367

Dear Sirs:

I am supporting Plan D because of the following questions and doubts I have in regard to USFS Vegetation Management procedures:

Using herbicides for Vegetation Management makes jobs in chemical factories. Manual vegetation control makes outdoor jobs for local people. Why shouldn't the Forest Service choose the second alternative?

You justify using herbicides for vegetation management because it is cost effective, but every time tests or studies are mentioned that should be done to assure safety, you claim it's too expensive. Isn't this just ignoring the true costs of using herbicides at the expense of the public?

The Forest Service recognizes that red cockaded woodpecker populations have been declining and is in the process of formulating new strategies for saving them. Is there a correlation between herbicide use and the decline of bird populations in the forest? What studies have been done?

Since no human experiments or even primate experiments of the toxicity of the herbicides is presented, I can only conclude that the human experiment takes place every time the Forest Service applies these chemicals. What records of worker exposure and what follow-up monitoring of worker health is being done by the Forest Service?

The Forest Service claims that cutting openings in the forest provides new growth forage for wildlife. But then they use herbicides on the new growth killing most and poisoning the rest. Isn't this an example of faulty thinking?

With the Brown and Burn program the amount of herbicide in smoke is considered to be whatever remains after an amount of degradation. What isn't considered is the break down products and the products of combustion of all of these. Doesn't this understate the air pollution problem?

I'm outraged that wood is made available to the public that has been sprayed. When is this practice going to stop?

App A table 3-4 presents elimination rates for the studied herbicides. But nowhere in the document is there any data on retention based on analyzing animal tissue. How can you justify this serious omission?

App A discusses surface water contamination and soil penetration. Groundwater contamination is not dealt with. Since groundwater pollution tends to travel in plumes, it would take monitoring many wells regularly over long periods of time to find evidence of chemicals in ground waters. What will the Forest Service do to address this?

The Forest Service claimed 2, 4, 5T was safe and used it until the mid 70's after the evidence against it. Could you convince the slowest intellects. The plan now claims 2, 4 D is safe while the evidence against it is mounting. Why should we accept the judgement of the experts you cite on any of the other herbicides?

Sincerely, Jane Barber

EDWARD S. DeCHANT
HC2 31, Box 46
Jasper, AL 36041

September 12, 1989

USDA FOREST SERVICE
VEGETATION MANAGEMENT EIS
1720 Peachtree Rd N.W.
ATLANTA, Georgia 30367-9102

Dear Friends:

I am opposed to the use of herbicides for Vegetation Management in the OZARK-OVACH-ITA MOUNTAINS OF THE National Forest because I, from experience, do not trust bureaucracies. I have a hard time accepting the results of laboratory testing and I feel that when we saturate earth with dangerous chemicals our lives are over.

I do not trust bureaucracies because even though they are required to abide by laws and policies that are good they are not lived up to by the worker on the line. For instance, contracts for specific work are granted always to the lowest bidder. Contracts always contain statements and penalties. But Contractors often contract to sub-contractors who say to the workers on the line, "Be careful, read the label on the can." There is never good supervision at any level because of cost and time restraints, so accidents do happen as I see in photos of careless use of herbicides by Hispanic contract laborers. I do not trust

Response to Comments in Letter No. 52

From: Edward S. Dechant

Comment No. Response

- 1 Your opposition to use of herbicides was included in content analysis of all comments received. Please also note that mitigation measure number 4 on page II-53 of the Draft EIS requires that the lowest effective amount be used when herbicides are applied. In addition, no herbicide evaluated has a half-life greater than 63 days. With these (and all of the other mitigations in place), saturation of even a small feeding niche with herbicide is not probable.
- 2 Contract administration is beyond the scope of this EIS. We do, however, expect strict adherence to management requirements and mitigation measures found in chapter II of the EIS.

page 2
E.S. DeChamir

bureaucracies because of the inherent way they do business. I worked 15 years for a large bureaucracy in Michigan until I retired.

I cannot accept the testing of possibly dangerous herbicides in a controlled laboratory with rats and mice, nor computer projections because these do not show the effect on humans ten years after exposure.

I feel strongly that the United States and other countries are using too many dangerous chemicals in industry and agriculture. Spills of toxic chemical on highways, railroads and ships are always accidental, but happen with dismaying frequency. As the ground, water and atmosphere absorb more chemicals we may seriously endanger life on earth.

Finally, I am a user of herbicides and insecticides. I read the cautionary labels. To be safe I should wear a face mask, goggles, gloves and protective clothing. I don't because I will be careful. But, I am really careless, and so are most of us, and so will those who work for you in the forest and you cannot supervise them carefully.

For all these reasons I am opposed to the use of herbicides for Vegetation Management. Therefore, I prefer Alternative "D" with reduced total acres of Vegetation Management, The use of low intensity mechanical and

3 Use of laboratory surrogates is commonplace in our society because of moral standards which reject testing on humans. Adjustments are made for physiological differences though (100-fold margin of safety). Data disclosed in the EIS support the position that the herbicides proposed for use pose minimal risk as long as mitigation measures (pages 11-38 through II-59 of the Draft EIS) are enforced as we require. Long-term health effects are also evaluated in the risk assessment (section 5) and data are presented which indicate the herbicides proposed for use pose very low risks to workers and the general public. See also table 5-28 (page 5-42, appendix A).

4 Your preference for a modified alternative D (reduced acres) was included in content analysis of all comments received.

page 3
E.S. DeChant

fire methods, primarily using manual methods,
integrating the approach of Alternative "A".

Swicely, Edward S DeChant

9/14/89

Dear Mr. McCarquodale,

- I have read the Draft EIS Summary, and you have asked citizens to comment. I understand that the Forest Service recommends plan F. I guess I'm surprised that still after all these years of people expressing their concerns with chemicals being used on America's soils, your Department supports the use of pesticides by our public lands. Several years ago, it became common knowledge that chemicals are being found in ground water and throughout America. The chemicals they are finding were used 15 years ago. The chemicals you plan to support will take 15 years to reach our water, but history tells us they will make it. These Americans are concerned about this. Seventy-five percent of the people are concerned, by survey. Better than 80% would buy food not sprayed with chemicals if they had the choice. It is time that our government leaders, the people's representatives listen to what the people are saying. We, as a majority, wish for the use of herbicides and pesticides to decrease and eventually cease. I believe you as a Forester should ^{work} with the people and help lead our country into the 21st Century, by proposing innovative and creative alternatives to the use of herbicides. Please re-consider your support for plan F and change to support 3. of plan D and help America be a world leader in making our planet be a place where all people can live safely.
- Thank you, Larry Karigan-Linter ^{Mary Karigan-Linter} (over)

Response to Comments in Letter No. 53

From: Larry & Marty Karigan-Linter

Comment No.	Response
1	Please see our response to comments in Letter No. 3, Comment No. 2 regarding possible effects from herbicides on water.
2	Your preference for treatments which reduce or eliminate the use of herbicides was included in the content analysis of all comments received. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
3	Your preference for alternative D was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1 I do not address myself to the issue of whether the forest needs managing (Alternative A as opposed to B), but state that should management be required, herbicide use is forbidden.

2 We have seen the detrimental aspects of herbicide use too often and are too naive as to their long-term effects. Regardless of short-term effects, herbicide use is forbidden.

3 This clear-cutting management procedure with or without herbicide usage are prohibited. This clear-cutting management procedure must state that herbicide usage are prohibited.

4 While it may be an easy "economic" means of timber management, my main interest in the forest is for recreation. Additionally, paper collection harvest, based on manual practices, should be favored (use additional sheets as necessary).

To return this comment sheet, fold and staple with USDA Forest Service address outside an drop in the mail (no postage necessary).

Name: First MI Last (Organization)
SUE ANN DANA
City State Zip Code
LUMBERTON, MS 39455

Tear at perforation

Response to Comments in Letter No. 54

From: Sue Ann Dana

Comment No.

Response

- 1 Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
2 Clearcutting and the economics of timber harvest are beyond the scope of this EIS. Please see pages I-1 and I-8 of the Draft EIS for the scope of activities addressed.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

Why?

Other:

Why?

*Had made it from comments -
delivered it. Many comments -
delivered it. Many comments -
delivered it.*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: NOEL S. MANEN
First MI Last (Organization)

Street Rt 2 Poma, Ark 72670
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 55

From: Noel S. Manen

Comment No.

Response

1 Comment noted.

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments Scientific Analysis:

You went to a lot of trouble and expense analyzing herbicides. In the end, we can still only conclude that No Herbicides Should Ever Be Used.

Why? They are poison to the air, soil and water.

We don't even really know the cumulative effects of herbicides on people, animals, etc.

Comments on Alternatives:

The best Alternative is A - No Action - leave things be natural.

Why? Clearcutting and even-aged monoculture has no place in our National Forests - there are no herbicides to produce only "pine plantations" are not necessary.

Other: We want to see degraded and reduced in our National Forests, along with wild plum and other hardwood trees. There's nothing more long than a monoculture forest.

Selection logging can keep the small sawtimber in timberland.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Walter Middle Dorothy Last Pelech (Organization) None.
 Street 5122 East Citrus St. City Juscar, AZ State AZ Zip Code 85712

Tear at perforation

Response to Comments in Letter No. 56

From: Halter & Dorothy Pelech

Comment No.

Response

- 1 Your preference for alternative A and the elimination of herbicide use was included in content analysis of all comments received. The effects of alternative A are discussed on pages IV-130 and 131 of the Draft EIS. The analysis discloses that there are adverse effects on some threatened and endangered species, wildlife, and public safety is no vegetation management is done.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 Clearcutting and even-aged management are issues which are beyond the scope of this EIS. They are discussed at length in Forest Land and Resource Management Plans. Please see pages I-1 and I-8 of the Draft EIS for scope of decisions.

Joe Unwer
2705 N 4th
Rogers, AR 72756

9/22/89

USDA Forest Service
1720 Peachtree RD., N.W.
Atlanta, GA 30367

To whom it may concern,
Ref: Management Bulletin
AS-KB23

1 Your scientific analysis is very impressive. It would even impress a master of finite math. It is obvious that you are trying to sell the chemical method. It is obvious you have spent all your time, energy and money on justifying the use of chemicals instead of looking for new and innovative ideas, instead of being on the "cutting" edge.

2 The problem with the scientific analysis, as you have stated, is that there "are significant incomplete or unavailable data" and "an overwhelming number... with data gaps and inconsistencies". When you justify by stating that the risk assessment "is firmly based in scientific considerations... is a process of weighing alternatives and selecting the most appropriate actions" then what is meant is you are simply taking ■ **calculated risk**. We can not afford to take any risk (calculated or not) with chemicals.

The best alternative offered is D.

3 Alternative D is far from being perfect. The use of mechanical methods and prescribed burning needs to be reduced. These two methods (excluding chemicals) are most destructive to our environment. But you already know this based on your "scientific analysis".

Response to Comments in Letter No. 57

From: Joe Unwer

Comment No.

Response

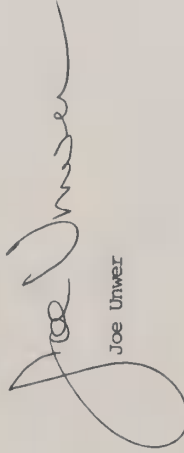
- 1 The amount of detail devoted to discussion of herbicide effects in the EIS is commensurate with the intensity of issues surrounding herbicide use. The EIS does not sell or justify any particular method of vegetation management. It discloses possible effects from a number of alternative proposals so as to provide the decision-maker with a firm basis for decisions.
- 2 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 3 Your preference for a modification of alternative D was included in content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

The main over all problem is the understanding of the basic (it should be simple) purpose or philosophy of the USDA's main objective. This objective would determine the type of alternative the USDA would be spending it's time, energy and money on. The only thing being read from the proposed management plan of the USDA is a proposed amount of acres, a proposed amount of money and where to spend it. In our advanced stage of economic and technological knowledge the only intention of this plan is a stone age-money spending bureaucracy.

The foremost priority of the USDA should be good, sound, safe practices for the public and it's environment not for just now or 3 years from now ("Monitoring is seldom needed beyond 3 years after project completion." vol. 1, I-10) but for the future generations. The USDA should be a leader in showing the public a cost effective method of management without the environmental impacts it is trying to impose. The USDA should be innovative. They should be on the "cutting" edge.

Thank you for your time.

Sincerely,



Joe Unwer

4 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining, and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained-Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. To achieve these many uses and outputs, some vegetation management is necessary. This EIS evaluates possible effects from those necessary treatments.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I AM NOT SATISFIED WITH THE CONCLUSIONS DRAWN BY YOUR RISK ANALYSIS.

1 Why? THE METHODOLOGY IS FLAWED BY ITS INADEQUATE DATA BASE AND ITS BIASED ASSUMPTIONS. IT HAS A POOR TRACK RECORD AS WELL.

Comments on Alternatives:

2 I PREFER ALTERNATIVE "D"

Why? I DO NOT WANT HERBICIDES USED AS A VEGETATION MANAGEMENT TOOL. I BELIEVE LOW INTENSITY FIRE AND MECHANICAL METHODS AND A LARGE INCREASE IN MANUAL (EVEN WITH ITS INCREASED RISK OF INJURY) METHOD WILL BEST PROTECT OUR RESOURCES IN THE LONG RUN.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: GORDON CRAIG
First: CRAIG
Last: CRAIG
Address: Box 415-B
City: YELLVILLE AR 72667
State:
Zip Code:

Tear at perforation

Response to Comments in Letter No. 58

From: Gordon Crain

Comment No.

Response

1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

2 While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Your preference for alternative D with emphasis on use of manual treatment methods was included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

RESPONSE FORM

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We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 Comments on Scientific Analysis: You have not proved that herbicides, burning and extensive mechanical equipment does not harm our timber land. It is not proved that herbicides and the wild life. Clearcutting must stop. It is no benefit to our economy. Harmes our environment, ugly sight to see.
- 2 Why? Case in point: Why are the trees still dying from sun-kill below where the Forest Service sprayed with herbicides 20 years ago? Why has our wild honey bee all but disappeared in the Boston Range of the Ozark National Forest? Why has all our domestic bees died? Why is the water supply below the comments on Alternatives: Spraying testing herb? Why are there no fish in the stream and why the 10% used herbicide? There are many more Why's.
- 3 Comments on Alternatives: We prefer Alternative A, Herbicides poison our environment. Burning (black and white) proved to be in the field would a disaster, soil erosion, starvation of every thing from humans to wild life, Pollution inciner. Bullet digging depletes the soil, clogs the streams, disturbs the entire ecological system.
- 4 Other: The Forest Service must use the selected system where they mark a small minority of scattered trees for sale (culling), leaving an eye improving stand Why? to regenerate new tree naturally.
- 5
- 6
- 7

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
 Matthew Debraun J. Fluid store
 Street
 Summit, Wisconsin, Box 291
 State Zip Code
 Wis. 53154

Tear at perforation

Response to Comments in Letter No. 59

From: Mr. & Mrs. Delmer L. Fluid

Response

Comment No.

- 1 The goal of the EIS is only to analyze and disclose effects; not justify a course of action. The preferred alternative was identified based on the results of the analysis.
- 2 Clearcutting is outside the scope of this EIS. It is discussed in Forest Land and Resource Management Plans. Please see pages I-1, I-2, and I-8 for activities addressed.
- 3 There could be several factors contributing to dying trees such as drought stress, old age, disease, air pollution, chemical pollution, insects, lightning, etc. The proposed herbicide spectrum was narrowed down to 7 for the affected area. They are introduced on pages II-27-32 of the Draft EIS. The effects of each are disclosed in depth in volume II, appendices A and C, of the Draft EIS. A summary table on page C-4 shows that the half-lives of any of the proposed herbicides does not exceed 3 months.
- 4 Throughout the wildlife section of appendix A, bees are cited as an invertebrate species specifically because of the concern you express. Much data does exist for bees since they are maintained for honey production in many areas. All 11 herbicides evaluated were of low toxicity to honeybees. Three additives (diesel oil, kerosene, and limonene) have insecticidal properties when sprayed as contact poisons on insects. However, our use pattern minimizes the contact poison potential, especially since herbicide treatments in the general forest area must be 75-100 percent selective (Final EIS page II-12) and mitigation measures will hold drift to a minimum (section IV.G.1). By applying herbicides at low rates (Draft EIS page II-53) and using buffers (Draft EIS page II-57), surface and ground water will be protected very well (Draft EIS pages IV-97 to IV-106). Herbicides used on national forests will not build up in the environment because they have half-lives of 2 months or less and are essentially decomposed in 2 to 12 months (long before any subsequent application).
- 5 Your preference for alternative A was included in content analysis of all comments received. The effects of alternative A are discussed on pages IV-130 and 131 of the Draft EIS. The analysis discloses that there are adverse effects on some threatened and endangered species, wildlife, and public safety if no vegetation management is done. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 6 Only low to moderate prescribed fire methods and mechanical methods are permitted as shown on page II-11 of the Draft EIS. The effects of each are disclosed in chapter IV of the Draft EIS. Stringent mitigation measures are required on pages II-46-51 to prevent adverse environmental impacts.
- 7 Harvest systems are not discussed in this EIS, and are not a part of vegetation management. These kinds of discussions can be found in Forest Land and Resource Management Plans and their accompanying EIS's.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: The Forest Service has not proved any thing in their scientific analysis. We who live in the Boston Range of the U.S. National Forest have seen the results of the U.S. Forest Service's contribution to the Oak Grove & Fish, I Hunt some and observe a lot. I have never seen any thing beneficial in the Forest Service's practice of clearcutting and tree cropping. It is expensive. Comments on Alternatives: Wildlife Cap. not line on pine needles. Forest ashore the land slope. The practice facilitates the soil, water and air eroded which method they use; that has been approved. I prefer Alternative A.

2 The Forest Service must adapt the selective management of our Forest Lands, stop this clearcutting, mark a few culls for sale leave an ever healthy forest to regenerate for the future. Why tree crop any way when the U.S. practically gives our Red Wood away to foreign countries. Why not leave it for the future?

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Mr. H. Flud
 First MI Last (Organization)
Malant Box 397
 City State Zip Code
Malant Ark 72854

Tear at perforation

Response to Comments in Letter No. 00

From: Mr. & Mrs. Don H. Flud

Comment No. _____ Response _____

- 1 The goal of this EIS is only to analyze and disclose effects; not justify a course of action. The preferred alternative was identified based on the results of the analysis.
- 2 Clearcutting and pine monoculture and their possible effects are not topics which are discussed in this EIS. Timber type classifications and silvicultural systems are discussed in Forest Land and Resource Management Plans.
- 3 Your preference for alternative A was included in content analysis of all comments received. The effects of alternative A are discussed on pages IV-130 and 131 of the Draft EIS. The analysis discloses that there are adverse effects on some threatened and endangered species, wildlife, and public safety if no vegetation management is done. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

6 Oct. 1989

USDA Forest Service
1720 Peachtree Rd., N. W.
Atlanta, Ga 30367

Dear Sir:

Following are my comments to the Vegetation Management DEIS for the Ozark/Ouachita Mountains:

- 1 You have made a mockery of the public input process by separating this VMDEIS from the Draft Land and Resource Management Plans. Neither document can stand alone, or be fully analyzed with out the other. The vegetation management material should have been included in the Land and Resource Management Plans, and integrated into each Alternative. For this reason, both documents are seriously flawed.
- 2 I am opposed to any herbicide use for vegetation management. Scientific studies have not been made to determine the dangers from the use of herbicides. In the past we have been told that certain herbicides were safe, only to learn years later that they were not after much health and environmental damage. The lack of scientific studies and data makes meaningful risk analysis impossible. In particular, there have been no studies done to determine the cumulative effects of long term use of a number of different herbicides. The risk is too great -- they should not be used on public lands for any reason. The Ouachita has an embarrassing record of herbicide use gone awry, polluting streams and ground water, and killing wildlife and non target vegetation.
- 3 I am also opposed to the use of mechanical methods of site preparation for all the reasons stated on page I-11 of the VMDEIS, soil erosion, stream siltation, soil compaction, and worst of all, loss of plant and animal diversity.
- 4 Prescribed fire should be low intensity, and used sparingly. It should not be used for species (hardwoods) suppression, or for wildlife habitat improvement. Fire is commonly used in the Ouachita for species suppression under the guise of wildlife work, or as an excuse to spend KV funds.
- 5 Extensive site preparation would not be necessary if sensible uneven-age single tree selection logging were used instead of destructive even-age management methods. This relates to how both plans fail by considering vegetation management separate from the Land & Resource Plan. They must work together, which is not possible the way you have chosen to present them. None of the vegetation management Alternatives is geared to single tree selection using minimal site preparation and no herbicides.
- 6 A viable list of alternatives was not developed. No alternative calls for no herbicide use, and no or very little mechanical methods. Alternative D is preferred, but it uses too much mechanical and grazing. A preferred alternative would have been geared to single tree selection and specified very little site preparation, and that being mostly by manual methods.

Thank you for this opportunity to comment on the VMDEIS.

Sincerely,

J. A. Moore
J. A. Moore
1820 Plymouth Rock
Richardson, TX 75081

Response to Comments in Letter No. 61

From: J. A. Moore

Comment No. Response

- 1 We used a process called "incorporation by reference" to ensure that Forest Land and Resource Management Plans were integrated into the Vegetation Management EIS. A future step in the process will amend Plans to incorporate findings of the Vegetation Management EIS. Additionally, in the case of the Ouachita National Forest Plan, the two were available for public review concurrently.
- 2 Your opposition to herbicide use was included in content analysis of all comments received. While studies of herbicide effects are not complete in every respect (there are data gaps which we have identified) there is a wealth of knowledge about their effects. We have utilized all valid data which we could find and rigorously applied risk assessment principles to account for data gaps.
- 3 Effects from mechanical treatments described on page I-11 in the Draft EIS represent effects that public responses suggested we should avoid. These kinds of effects are minimized in every alternative except alternative H.
- 4 Your opposition to the use of prescribed fire was included in content analysis of all comments received. Appendix B gives a fairly detailed explanation of fire activity and some effects which may occur. Only low and moderate intensity fires are allowed in the preferred alternative. The objective of each burning program is addressed in each Forest's Land and Resource Management Plan.
- 5 Silvicultural and harvest systems are beyond the scope of this EIS, but are discussed in detail in Forest Land and Resource Management Plans. All alternatives, except A, included provisions for even-aged and uneven-aged timber management, and the analysis reflects impacts appropriately. See pages II-2 through II-17 of the Draft EIS.
- 6 Your preference for a modified alternative D was included in content analysis of all comments received. Alternative B substantially reduces use of herbicides, mechanical, and prescribed fire, and it includes over 10,000 acres annually of uneven-aged treatments. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

ARKANSAS FORESTRY ASSOCIATION

820 PLAZA WEST, MCKINLEY & LEE STREETS • LITTLE ROCK, ARKANSAS 72205 • TELEPHONE (501) 663-8260



O. H. DARLING
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PEGGY CLARK
SECRETARY
ARADDELPHIA

W. C. ROTHERMEL, JR.
TREASURER
ASHDOEN

October 5, 1989

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. Alcock:

The Arkansas Forestry Association (AFA) appreciates the opportunity to submit comments on the Draft Environmental Impact Statement (DEIS) for vegetation management on national forests in the Ozark/Ouachita Mountains. Our organization is a non-profit trade association composed of approximately 1,300 members drawn from a wide spectrum of forestry interests.

We support the Forest Service's objectives of protecting human health and safety, promoting the long-term health and productivity of the national forests, and meeting the goals and objectives set by the various pertinent forest plans. We feel, moreover, that each of these objectives must be held in careful balance, so that none are over-emphasized to the detriment of the others. AFA supports the adoption of Alternative H as the most appropriate vegetation management approach on national forest lands located in the Ozark/Ouachita Mountains, from a conviction that it most clearly provides such an essential balance.

Since any vegetation management option chosen should relate closely to regional Land and Resource Management Plans for the national forests, and since none of the relevant plans have yet been finalized, we are at something of a disadvantage in offering these comments. For example, the exact acreage involved may vary somewhat from the figures on which our evaluation is based, depending on which plans are ultimately adopted.

In our opinion, any viable vegetation management options should necessarily include all appropriate treatment methods, so that effective treatment would be available for the broadest range of site specific needs. The current (C) and preferred (F) alternatives fail to meet this standard, particularly since neither includes the use of aerial spraying.

We feel that such an omission reflects an unjustified response to a negative public perception concerning aerial spraying that is based largely on ignorance and misunderstanding. In the collective experience of our membership, aerial spraying has been found to be one of the safest vegetation management tools available, for several reasons. The equipment used in aerial spraying today is highly efficient; personnel involved in the process are responsible, well trained and professional in their outlook; human exposure

SUSAN GLAZE
EXECUTIVE SECRETARY



B. J. PAVLOVICH
EXECUTIVE VICE PRESIDENT

Response to Comments in Letter No. 62
From: Arkansas Forestry Association

Comment No.

Response

- 1 Your preference for alternative H was included in content analysis of all comments received.
- 2 Acreage figures used in this EIS are approximations which were used for analytical purposes. They are not targets. These approximations, however, come close to representing programs which would be implemented under up-to-date Forest Plans for both forests. Changes can be easily accommodated, because it is the theme of the alternative, not acreage which counts.
- 3 Aerial application of herbicides was evaluated under alternatives G and H. Our analysis disclosed that vegetation management programs have been successfully carried out for a number of years without using aerial application. So, while aerial application has several advantages, it is not essential to completion of program objectives because of the small stand sizes and amount of uneven management proposed.
- 4 We agree.

Mr. John E. Alcock
October 5, 1989
Page 2

to chemicals is sharply limited, and accuracy of application, in terms both of quantity and placement, is almost unerring. In addition, aerial spraying in many instances is substantially more economical than other types of herbicide application.

We find a tendency in both the current and preferred vegetation management alternatives to replace use of herbicides with manual treatment methods, which we feel again represents a reaction to misguided public attitudes. In point of fact, all EPA-registered and approved forestry herbicides, which are covered in Volume II of the DEIS, are shown to fall well within safety parameters for registered uses by the Forest Service's Margin of Safety (MOS). They are plant specific, with minimal to no risk to human beings or wildlife when properly applied.

By way of contrast, manual methods are extremely labor intensive and thus carry a far greater risk of human exposure; at the same time, they offer a much less effective and more costly approach to vegetation control. Whereas herbicide treatment tends to have favorable, long-lasting results, vegetation control by manual treatment is generally quite short lived. The necessity for frequently repeated manual treatments, in order to achieve minimally desirable levels of vegetation control, must inevitably result in an increased cost per net acre, compared to the cost of herbicide treatment. Over the span of one or two Forest Service planning periods, the cost for manual treatment could well exceed herbicide treatment costs by as much as three fold.

The current trend on most national forests is toward a reduction in acreage available for timber production. Thus, if national timber supply goals are to be met, management levels must be intensified on those acres that remain available for timber production. Vegetation control must be economically intensified to help meet that goal.

AVA feels strongly that, of the various proposed options, Alternative H is most consistent with such necessary management levels, in that it provides for effective, long-lasting and economical methods of vegetation control.

Herbicide Approval

AVA recommends that all EPA-approved forestry herbicides be certified for use on national forest lands. The Forest Service's MOS for all of the listed chemicals indicates that no member of the public, including sensitive individuals, would be adversely affected by any of the herbicides or associated chemicals used for vegetation management in the Forest Service's Region 8. This includes four herbicides (2,4-D, 2,4-DP, dicamba and tebuthiuron) that are not currently included in the Draft Vegetation Management program and that are not projected for future use. Such a restrictive approach strikes us as being in direct and inexplicable conflict with the Forest Service's own analysis of the subject chemicals.

5 We agree.

6 Elimination of 2,4-D, 2,4-DP, dicamba, and tebuthiuron from consideration for use in the Ozark/Ouachita Mountains was based, in part, on our analysis of the behavior of these products. In general, we found that they require more stringent mitigation measures to achieve our safety and environmental standards. However, the principle factor for not considering their use is that we found either no use or extremely limited use on national forest lands in Arkansas and Oklahoma in the recent past, and we found no anticipated use in the near future.

Mr. John E. Alcock
October 5, 1989
Page 3

Economic Analysis

Different approaches to vegetation management will inevitably have different economic consequences. In AFA's opinion, the long-range cost effectiveness of various vegetation management methods should be carefully evaluated, including a comparison of the mean annual incremental growth gain per acre produced by the different approaches. Such a comparison, in our opinion, is essential to the development of a sound, qualitative and quantitative rationale on which to base ultimate adoption of a vegetation management alternative.

In summary, AFA supports the vegetation management objectives proposed by the Forest Service for the national forests of the Ozark/Ouachita Mountains region. However, we respectfully disagree that the preferred alternative would most effectively promote those objectives. Indeed, we are convinced that the alternative ultimately chosen should be comprehensive and flexible enough to accommodate inevitable and unpredictable change. As time passes, new, more effective and safer herbicides will routinely evolve; innovative methods of treatment, utilizing the new materials, will unquestionably be developed. Thus comprehensiveness and flexibility will be essential to the viability of any vegetation management option. In our opinion, Alternative H best provides for those essential qualities, and thus most clearly accommodates the present and future vegetation management needs of this region's national forests.

Again, AFA greatly appreciates the opportunity to comment on the Draft Environmental Impact Statement for the Ozark/Ouachita Mountains region.

Sincerely,

O. H. Darling
O. H. Darling
President

OHD/s8

7 We agree. However, our economic analysis responded to comments we received when we scoped for issues. These comments requested a less complex, more readily understood analysis which essentially considered only direct costs.

8 Programmatic EIS such as this one can be amended as needed to accommodate new technology and new issues.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:
Not enough research to prove the long-term safety of herbicides.
They thought diazin, 2,4-D, Agent Orange, thalidomide, PCB's, etc were safe. Why experiment on me & my family? I live here (12 years) Why? Forest managers love herbicides - they are quick & simple. But you won't be downwind from the burning areas - I will. You won't have your drinking water contaminated by surface run-off - I will. You are "safe" in Atlanta.

Comments on Alternatives:
Go for "D". Better for the local economy. People here are still willing to work, it can do your "management" by hand. Much safer than herbicides. Why? Also - put your money into the local economy - why send all that money to the chemical companies?

Other: Best yet "A" - no action. If I wanted to live in a pine forest I would move to Georgia. This is hardwood country. Why? You are just fronting as stooges for the timber companies who want pine, pine, pine. Also - tourists don't like to see clearcuts & pine stands - they come for scenery. Tourism is a big industry here. PLEASE SAVE OUR FOREST - STOP HERBICIDES & DON'T

To return this comment sheet, fold and staple with USDA Forest Service address outside (no drop in the mail (no postage necessary)).

Name: First MI Last (Organization)
Teresa H Matthews O.C.S.A.
Street Hill Rd Box 542
City Jasper AR 74241
State Zip Code

You CAN DO IT - JUST SAY NO to herbicides
You have the power - use it!

Response to Comments in Letter No. 63

From: Teresa H. Matthews

Response

Comment No.

- 1 We carefully evaluated possible effects on forest users and neighbors in addition to our employees and contractors who apply herbicides. Results shown in table IV-1 indicate a 1,000-fold margin of safety or more. We could not find any evidence that your drinking water will be contaminated or that you will be affected in some other way through the use of a narrow spectrum of herbicides, reduced application rates, and stringent mitigation measures required on pages II-52-59 of the Draft EIS.
2 Your preference for alternative D was included in content analysis of all comments received. Our analysis, however, indicates that manual methods are far less "safe" than using herbicides. See our discussion beginning on page IV-25 of the Draft EIS. Additionally, because we are stressing selective application of herbicides we don't find any discernible differences in monies infused into local economies through employment. See Table II-8.
3 Determinations of which species are best suited to specific sites are discussed in Forest Land and Resource Management Plans. Less than half of the vegetation management activities that are evaluated have anything to do with timber production.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

1

Comments on Alternatives: 1 prefer Alternative D.

Why? Because it eliminates the use of herbicides, which I feel is a correct policy for public land management.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
1822 Plymouth Dr.
City State Zip Code
SAVING TX 75061

Tear at perforation

Response to Comments in Letter No. 64

From: Mark McClain

Comment No.

Response

1

Your preference for alternative D and opposition to use of herbicides was included in content analysis of all comments received.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Abstracts DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

STATE OF ARKANSAS
 DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
 8001 NATIONAL DRIVE, P.O. BOX 9383
 LITTLE ROCK, ARKANSAS 72209
 PHONE: (501) 562-7444

October 4, 1989

Steve McCorquodale, Team Leader
 Vegetation Management EIS Team
 USDA Forest Service
 1720 Peachtree Road, NW
 Atlanta, Georgia 30367

Dear Mr. McCorquodale:

The Department has reviewed the draft EIS entitled Vegetation Management in the Ozark/Ouachita Mountains. The document, along with the briefing session by your team, has helped to answer many of the earlier questions discussed by the DPC&E staff.

In reviewing the section on herbicide use and risk assessment, it is documented that the selected herbicides possess low aquatic toxicities and therefore should not present a serious threat to the environment. Aerial application of herbicides is not proposed in lieu of manual applications. Manual applications are probably more prone to human error with possible spills and site specific incidents, but are very target specific. The low toxicities and the specificity of the herbicides should not cause serious or widespread effects.

1 The mechanical methods of control would, for the most part, present a high potential for sedimentation in nearby streams. This method should be avoided unless absolutely necessary for management.

2 Prescribed fire treatments, if of the low intensity types, should cause little environmental effect. The primary effect would be smoke, which would limit visibility and raise concentrations of some airborne pollutants. Since the frequency of treatment is low, the contribution to the environment would be minor except in the affected area. However, fire use should be minimized to prevent smoke effects.

3 Manual methods should have no noticeable effects to the environment. Biological methods should, and essentially have, be eliminated from further consideration.

The Department, therefore, would support an alternative that would maximize herbicide and manual methods, minimize prescribed fire, and eliminate mechanical and biological methods. The problems of sedimentation in the aquatic environment and smoke would be minimal

Response to Comments in Letter No. 65

From: Arkansas Department of Pollution Control and Ecology

Comment No.

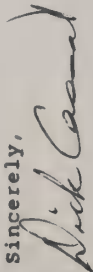
Response

- 1 Scarifying tools (described on Draft EIS page II-23) cause minimal soil disturbance, erosion, and effects on site quality. Piling and raking are described on Draft EIS page II-25. Piling, which displaces little or no soil, poses minimal to low risk to site quality; raking, which does displace topsoil, poses high to extreme risk (see Draft EIS table IV-11, page IV-88, and pages IV-91 to IV-95 for disclosure of effects). In the preferred alternative, raking will not be allowed on any site. We are also requiring a number of mitigation measures in chapter II to protect streams and water quality. Table II-7 indicates that the Draft preferred alternative (F) reduces sediment from current levels by about 60 percent.
- 2 Section H of chapter IV discusses potential effects on air quality from prescribed fire. Though we did not find evidence that prescribed fire will significantly affect air quality at proposed levels, we recognized this potential and required mitigation measure numbers 1, 12, and 13 beginning on page II-46 in chapter II of the Draft EIS to avoid problems. Prescribed fire is the only tool we feel is appropriate for fuel reduction and wildlife habitat maintenance in many cases (over 75 percent of our proposed use), so rather than eliminate its use we sought to minimize its effects.
- 3 Some of the many effects of manual treatments we disclosed are: accidental injuries, browning vegetation, retreatments, sprouting, labor-intensiveness, and selectivity.

4 from this type of control program. With these criteria, alternative B (assuming A is not viable) would appear to have the least environmental effects. Alternative B is lowest on mechanical and fire treatment acres and eliminates biological treatment. Alternative B is also lowest in the number of acres treated, thus minimizing access caused pollution. Alternative B appears to be the best management alternative proposed.

Thank you for the opportunity to comment.

Sincerely,



Dick Cassat, Chief
Technical Services Division

4

Your preference for alternative B was included in content analysis of all comments received. Alternative B may produce or avoid environmental effects as you suggest, however, it may not represent the "best management" alternative as it fails to allow enough treatments to meet some output goals and objectives of Forest Land and Resource Management Plans.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

GREG L. HAY

3187 Stacy Drive
Conway, Arkansas 72032
(501) 329-4070

September 30, 1989

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. Alcock,

I appreciate the invitation to submit comments on the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains. Time and the volume of material presented for review will not permit me to respond in as great a detail as I desire, but here are some of my comments and concerns.

I want to commend the Vegetation Management EIS Team in their effort to comply with NEPA and CEQ regulations. Although encyclopedic in volume, the format demonstrates a sincere attempt by the team to present this information in a readable form.

The size and volume of these documents is an issue with me. This amount of material intimidates the majority of the public and local decision makers. They don't feel they have the time nor the expertise to digest this amount of information and develop valid significant comments which will affect your decision. Therefore the majority of the public is effectively excluded from the decision making process.

On page 111 of the Summary it is stated that Alternative F is the Preferred Alternative, yet nowhere in the Summary is there an explanation of why the Forest Service selected Alternative F. I would like to know why the Forest Service prefers Alternative F.

With regard to the Environmental Consequences section of the Summary, I have two concerns. In the second sentence of the second paragraph under Soil, page xlii. Why was Alternative G left out? Alternative G also employs only low to moderate disturbance tools and underburns are allowed for to reduce wildfire effects. The economics discussion here does not reflect an accurate cost effective comparison of the alternatives. To justly compare cost effectiveness it is necessary to compare Present Net Worth and/or Benefit Cost Ratio and/or Return on Investment. For this reason the statement "Alternatives F and H have the greatest advantage because their direct costs are among the lowest and their indirect costs are low to moderate" is very misleading.

Volume II of the DEIS is largely a reprint of data contained in other USDA publications, i.e.: Pesticide Background Statements, Ag Handbook 633. This information could have been referenced avoiding excessive and redundant paperwork, reference NEPA, Part 1500, Section 1500.4.

Response to Comments in Letter No. 66

From: Greg L. Hay

Comment No.

Response

- 1 The task of disclosing effects for a subject as broad as vegetation management is enormous. We made a conscious effort to write the EIS so it was understandable, and we put complex materials in appendices. We also provided summaries and several key places to aid in understanding. Size of the EIS generally complies with the Council on Environmental Quality Regulations (40 CFR 1500-1508), particularly 1502.7 and 1502.2(a), (b), and (c).
- 2 The Draft EIS is prepared to conform to the requirements of the National Environmental Policy Act. Certain decisions about where to put information were made within the framework of the CEQ Regulations. Thus chapter I presents the process; chapter II presents the alternatives, summary information about the tools proposed for use, and conclusions from the analysis (mitigations necessary to cause an acceptable degree of risk), and a (conclusion again) comparison of environmental effects; chapter III presents environmental background; and, chapter IV presents the analyses by environmental element potentially affected and a summary of impacts by alternative. When an alternative is selected, that selection is disclosed in a Record of Decision. Along with the selection there is a discussion of the decisionmaker's rationale. A Draft EIS does not disclose selection, just preferences; thus no rationale for a decision are discussed.
- 3 We agree with your evaluation of effects from alternative G. Our statement in the Summary on page xlii says alternatives B, E, and F best protect soil productivity. We did not intend that this could be interpreted that other alternatives somehow damaged soil productivity. A more detailed comparison can be found in parts F and M in chapter IV and in parts F, G, and H in chapter II.
- 4 Based on public comment during scoping for issues, the economic analysis in this EIS is extremely simplified, and discusses only costs. We did not compare cost effectiveness. More detailed economic analyses are contained in Forest Land and Resource Management Plans and their accompanying EIS's.
- 5 Volume II contains 5 appendices, and only appendix A contains information taken from Ag Handbook 633. Appendix A is the Risk Assessment and though it repeats some data from Ag Handbook 633, it contains a wealth of other data. We are aware of the option of incorporation by reference, but also recognize the need for readability, continuity, and understanding.

GREG L. HAY

3187 Stacy Drive
Conway, Arkansas 72032
(501) 329-4070

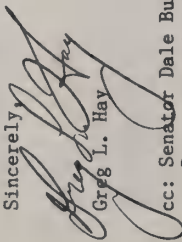
Alternative F entails increasing the use of prescribed fire and manual methods as compared to alternative C. Air quality, smoke management concerns, increased worker injuries, lack of sustained vegetation control and reduced cost effectiveness all dictate sound cause for rejecting implementation of this alternative.

I support Alternative G for implementation because it allows for a broader range of application methods, offers better sustained control of vegetation, reduces the environmental disturbance, reduces potential for worker injuries and provides improved cost effectiveness in the vegetation management program.

In summary, I support the need for action with regard to vegetation management on the Ozark and Ouachita National Forests and endorse the USFS multiple resource management concept. However, I believe Alternative G represents a more environmentally sound, professionally responsible and balanced approach for performing the task of vegetation management in the Ozark and Ouachita Mountains.

Please keep me informed in a timely manner as to your Record of Decision on this DEIS.

Sincerely,



Greg L. Hay

cc: Senator Dale Bumpers
Representative Tommy Robinson

6 Your concerns for possible effects from alternative F on Air Quality, smoke management, worker injury, sustained vegetation control, and cost effectiveness were included in content analysis of all comments received and were considered in development of the Final EIS.

7 Your preference for alternative G was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I found that a thorough job was done - you all went from A to Z and then did it again. I personally think too much time was spent, including money.

Why? All the products used for the forest have been approved by the EPA and are indeed safe to the environment (humans, wildlife, fish and fowl).

Comments on Alternatives: All appropriate treatment methods should be included. Both the current and the (F) alternative plan fail to address the above standard. Some aerial application is not needed. I personally prefer your (H) alternative.

Why? Aerial application is very cost effective, safe to the environment and... The applicator... are well trained and... The (H) alternative provides for longer... economical and... methods of controlling vegetation.

Other: As far as herbicides are concerned all of the presently EPA approved for forestry should be allowed to be used on the USFS lands.

Why? I think I see a trend by the USFS to be to remain to a few... in the time safety of herbicides to replace the use of herbicides with... which will be very costly, not very effective and will decrease the overall growth of our forest.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
3300 FOXGROVE RD

City State Zip Code
Little Rock, Ar. 72207

Tear at perforation

Response to Comments in Letter No. 67

From: Carroll E. Walls

Response

Comment No.

- 1 The Interdisciplinary Team is pleased that you felt a thorough job was done.
2 Your preference for alternative H and for aerial application of herbicides was included in content analysis of all comments received. Our analysis found aerial application to be cost-effective and relatively safe.
3 EPA registration of herbicides for forestry applications is one step in a two step process if the herbicides are used on Federal lands, such as national forests.
4 We agree. Manual treatments can be very costly because of the frequent need for retreatments (see our discussion in chapter IV) and should be used in situations where they are most effective.

To the U.S.D.A. Forest Service

Re: Draft Environmental Impact Statement

Dear Sir,

I am a very concerned citizen of Newton County Arkansas. My concern is the use of herbicides as a vegetation management prescription in Newton County National Forest land and on private lands as well.

I currently drink water from the little Buffalo River. It is very pure. I am never sick from drinking it.

I believe that only Alternative D will protect the Forest from Damage from herbicide use.

Sincerely,
Chester E. White

Response to Comments in Letter No. 68

From: Chester E. White

Comment No.

Response

- 1 Your concern about the use of herbicides was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Our analyses in appendices B and C and in part G of chapter IV indicate that there should be minimal effect on water quality from our vegetation management activities. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, and II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 3 Your preference for alternative D was included in content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

70-123

The above letter numbers are all of the same content and a copy of the letter is reproduced below. These numbers also appear next to the names of persons who sent them in chapter VI (Volume III). Most of them did not have an address. Therefore, we were unable to add them to our mailing list to receive an EIS.

TO: U.S.D.A. Forest Service
 RE: Draft Environmental Impact Statement

Dear Sirs,

Based on your own survey in 1988, "most people are concerned about herbicide use more than any other vegetation management method." This is "Some scientific uncertainty about long term effects of many herbicides." Therefore, please choose Alternative D.

Both Alternatives, D & F manage the same acreage. However, the cost per acre is less by \$4,970.00 of .46 million dollars. That's almost a half a million dollars a year without any chemical risk to the Ozark/Quachita Mountains.

Vegetation management should not be used to increase pine production at the expense of our hardwoods.

I want to save money and not use any herbicides. Please consider Alternative D.

Thank you,
 Coralie Houston
 private citizen
 ACR 72 Box 56
 Parthenon, Ar. 72666

Response to Comments in Letter No. 52

From: Coralie Houston

Comment No.

Response

- 1 Based on the fact that many people expressed concern over the use of herbicides we conducted a more thorough analysis of potential herbicide effects. This is consistent with several sections of the Council on Environmental Quality Regulations, (40 CFR, Parts 1500-1508) especially 1500.1(b), 1500.4(c) (f) (g), 1500.5(d), and 1501.7.
 While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
- 2 Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
 As shown in table II-8, per acre cost differences between alternatives D and F, equal \$4.27 with a total cost difference of \$.46 million. Two additional factors must be considered, however, when making this comparison. First, we only quantified direct costs (though in chapter IV we recognize there are a multitude of indirect costs). In our analysis of effects (chapter IV) we discuss effectiveness of each method (see also pages II-18 through II-38 of the Draft EIS). Because some methods are less effective than others for some types of treatments, all indirect cost for retreatment arises. This is particularly true for manual treatments, and perceived savings are soon eroded. Second, use of any method produces effects which people judge as favorable or unfavorable. An unfavorable effect from manual is personal injury, which we considered in our analysis on pages IV-25-27 of the Draft EIS.
- 3 Suitability of specific sites to produce certain species is discussed in Forest Land and Resource Management Plans and is not addressed in this EIS. Less than half of the vegetation management activities we evaluated have anything to do with timber production; rather cover most activities associated with managing the national forests. See pages I-1 and I-2 for activities addressed.
 Your preference for alternative D was included in content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 4

Dear Representatives.

I am writing to express my concerns and desires pertaining to the USFS Draft Environmental Impact Statement for Vegetation Management in the Ozark Quachita Mountains.

This is very frustrating to do because it seems you ~~have~~ to read volumes, ~~have~~ a degree, ~~with~~ use lots of facts to be heard in such a matter.

I am a resident of Newton County Ar. I attended the "public hearing" or information meeting in Gasper. I heard a lot of people express, desires, suggestions, opinions, fears and speak from the heart. Therefore, at times one who was not clear on factual information where or just presented from a human sharing place interrupted, stopped, sidetracked by facts and language that seemed way over the average persons' head. When I've asked



~~Walter~~ that they put certain matters in their own words we were constantly referred to page such as such of the manuals. At one point someone questioned the results of a situation in which someone gets a trace of the herbicides in their water, in their garden, breath a little air containing pollutants from burned foliage that had been sprayed and then shot their meat for dinner in the woods with a trace contained. As I gathered from the reply all we can go on are hypotheses as ^{is} ~~is~~ the case with many of the possible risk testing or evaluations.

~~T.C. 118947~~
~~IV. 16-7-10~~
 Some of my neighbors saw a crew of men spraying for the USFS. Many could not speak English and when observers tried to warn them of the results of the many violations they were making, endangering their lives they couldn't understand. In didn't care. Large spills were occurring. None washed up and ate & drank. At the meeting when this was questioned we were told they should have made reports. This is one example of quantitative risks not paid long enough for accurate results as in one in Calif.

1

2

Response to Comments in Letter No. 124

From: Shara & Doug Fain

Comment No.

Response

1 The Council on Environmental Quality Regulations, 40 CFR 1502.22 require that "reasonably foreseeable" significant adverse impacts be evaluated in order to make a reasoned choice among alternatives. Management requirements, and mitigation measures in part E of chapter II constrain the magnitude of reasonably foreseeable accidents (see especially number 28 on page II-58 of the Draft EIS).

2 We are unaware of the specific situation which you discuss. However, mitigation measures and management requirements in chapter II are mandatory and we have mechanisms in place to enforce them. Additionally, we have had key portions of these mitigation measures translated into Spanish because we are increasingly utilizing Spanish-speaking labor.

They didn't ^{make reports} follow up on as to possible effects and was told they were not.

On the part when damage was discovered from such sprays or use of new chemicals it was years later. As I understood it, ~~many~~ many of these results and estimated results I have only been studied by and less! Most of them are on animals and could not take into effect the effects on humans and those especially sensitive to certain chemicals.

It seems it would be easier for someone who decides and studies these things as a profession to feel differently than those living in the midst of it. And to view us as emotional amateurs with no understanding of facts.

We understand that adequate studies have not been made; arbitrary risk assessments used had no adequate data base;



3 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000 or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

4 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking we identified the lack of data and explained how the Risk Assessment dealt with the gap.

Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

That further research is needed if they were to be used, but we don't feel they need to be or should be used. H. handled properly a great deal of management could be done by locals who would provide reasonable costs who know & care about the area, and would benefit from the work.

Many questions at the meeting were met with nebulous references to information in the manuals, which I've read leave many areas unstudied. Often no risk was assumed even though no study had been made concerning certain questioned matters.

We asked ~~if~~ if the U.S.F.S. would help people and take responsibility in the event health, land damage etc. resulted. Especially if it was determined result of spraying. I understood ~~now~~ ~~was~~ would be. As I understand it, some of the chemicals are labeled "Use at your own risk" but whose risk is it if we who would be affected don't consent to taking the risk. For a democratic country I am sure doesn't feel like it. Even though many locals don't get out to voice

5 See our response to comment 4 above. We did not ever assume "no" risk from any vegetation management activity. Whatever risk is present is quantified throughout the EIS, then comparisons are made to determine if that level of risk is within acceptable limits.

their opinions or write, if you did a ~~secret meeting~~ ^{vote} meeting. I'm sure a significant number would be seen of the anti-herbicide category. So why aren't we considered by those who supposedly represent us.

6 It seems when you offer a meeting concerning this and it's apparent that all present seemed to be opposed to such action that that would speak for the average population. I can see from the results of the last Environmental Impact Statement hearings and the meeting why so many feel nothing they do or say does any good. Only the extremely committed will show the time or energy to attempt it or \$

7 My water quality standards for most proposed herbicides are ~~set~~ set with the same as 2,4-D since it's the only one there's information on if the others don't exceed the amounts considered safe for 2,4-D. That's outrageous! There's also nothing, really,



6 In elections there are clear winners and losers. In public participation processes utilized to assist Agency decision-making this cannot happen, thus we do not count votes. This does not minimize the importance of any particular comment or point of view. We are charged with balancing the needs of all the public and not penalizing some factions just because some other faction spoke in large numbers, louder, or more clearly. As painful as it may seem, we will have met our obligation if everyone gains a little but one gains everything desired.

7 Given a variety of proposals for water standards, none of which are yet law, the use of 2,4-D standards appears to be yet another conservative approach. The mandatory standard for 2,4-D is a lower amount/liter of water than for the other herbicides evaluated.

on results from burning areas that have been sprayed. I recommend that there be no burnings of areas that have ever been sprayed. I feel especially strong about this when 2,4-D was used containing the deadliest form of dioxin & sine they are not destroyed at low temperatures and are so long lived.

In ~~general~~ general, many studies ~~point to~~ inadequately estimate results for worst case analyses. They don't have a long enough record to be considered relevant! Data gaps leave many holes and dangerous assumptions with no scientific support. Long term effects are left out, and are not even possible on most of them since they've never been used in actuality long term. There are not studies of how the chemicals affect existing health problems or how the affected people when combined in certain quantities over a certain length of time.

In summary I feel D is the desired plan, burning and management manual, and next I would favor no treatment - A.

Thank you.

Shara + Doug Fain

8

2,4-D is analyzed in the Risk Assessment and does not exhibit the effects you attribute to it. Nonetheless, 2,4-D is not being proposed for use in the Ozark-Ouachita Mountains area under any of the alternatives considered.

9

Your preference for alternative D was included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns? I oppose to future herbicide use by USFS because:

1 of extensive "data gaps" in the human on Scientific Analysis: risk and wildlife risk assessments as stated on pages IV-849, and III-66457, vol. 1. I don't feel that anyone knows enough about pesticides to allow them to be spread on the public lands. And of course you can't expect me to believe you have all the angles covered so that there is NO CHANGE in water supply will be polluted by your chemicals. You have not considered the morality of altering God's work with your Why? poisons. You unlawfully threaten biodiversity and endangered species with herbicide vegetation management related clearcutting.

2 Comments on Alternatives: None of these alternatives is really an adequate way to run a forest. Large areas of wilderness are essential to a healthy ecosystem. I mean no human alterations, no timbering, no pesticides. Please consider management except monitoring to prevent law violations. Failing that I must support Alternative A no action, even though I suppose that means continuing the same regime that has already poisoned hundreds of thousands of acres in the Ozarks. In the interim I support NCA's modified Why? Alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily manual methods with an IPH approach.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Doug Alexander
1000 W. Lott (Oppington)
PO Box 319 DEER, AR. 72828
Street City State Zip Code

Tear at perforation

Response to Comments in Letter No. 125

From: Doug Alexander

Comment No.

Response

1 Your opposition to herbicide use was included in content analysis of all comments received.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Effects on threatened, endangered, proposed, and sensitive species have been thoroughly evaluated in section E of chapter IV and in appendix D. Additionally, mitigation measures 1 and 2 on pages II-38 through II-40 afford necessary protection for these species. Your comment assumes that all these species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.

3 Further wilderness designations are issues which are beyond the scope of this EIS. A thorough wilderness review was conducted during the Forest Land and Resource Management Planning process.

4 Your preference for alternative A or a modification of alternative D which reduces acres treated and stresses manual treatments was included in content analysis of all comments received.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though However you decide to respond, please help us by making specific and meaningful comments Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis:

- Concerning herbicides:
 - need further research
 - inadequate data base
 - possible inaccurate data
 - possible adverse effect of herbicide
 - data gaps in risk assessment
- Comments on Alternatives: A or D. please, No herbicides!
 - rich in too high
 - possible allergic reactions among sensitive persons
 - run-off water contamination risk
 - Burning of the wood which has been sprayed with + pollutants, the air.
 - possible spills and accidents exceeding those measured (use additional sheets as necessary)
- Why?
 11. Secret ingredient
 12. neurotoxic
 13. May cause tumors
- Other:
 - data missing
 - May cause tumors

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

Pauline Baird
 Name: First MI Last (Organization)
 1119 N Jefferson
 Street City State Zip Code
 Springfield, Va. 22174

(OVER)

Tear at perforation

Response to Comments in Letter No. 126

From: Pauline Baird

Response

Comment No.

1 In this document we have complied with the Council on Environmental Quality (CEQ) regulations on incomplete and unavailable information, which require analysis of "... reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) to comply with CEQ's requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are essentially worst case analyses that exceed CEQ requirements.

The Risk Assessment used a modeling approach to estimate the potential of each herbicide, additive, and inert ingredient to cause toxic effects, cancer, mutations, and birth defects under a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). It also evaluates bioaccumulation and synergism of the chemicals. Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures. The effects of those exposures are evaluated based on toxicity data for each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community.

The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 633, and it was subjected to rigorous scientific review. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were consistently made to deliberately overestimate potential health risks to people and wildlife.

2 Your preference for alternatives A or D was included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

I like clean, pure air, uncontaminated water, air & food. I don't like herbicide nor pesticide. I don't trust them. I have seen what has happened in the past 50 years what may happen now & in the future. Ruth Cannon said that man would even sell the sunshine - I believe it is FOOTING pure clean environment on the reaction. h.h.h.

Money is not as critical as life and health and beauty and our world of nature.

Please stop spraying - Pauline Paris!

3

Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals, we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000 or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions ■ you suggest.

In addition, mitigation measure No. 16 (page II-56 in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situation which pose undue risk. Sensitive individuals must also use common sense and avoid areas which have been treated with a herbicide to which the individual is sensitive!

4

We are unaware of "secret ingredients." The EIS evaluates not only effects from formulated products, but also those from inert ingredients.

5

The Council on Environmental Quality Regulations, 40 CFR 1502.22 require that "reasonably foreseeable" significant adverse impacts be evaluated in order to make a reasoned choice among alternatives. The accident scenarios we evaluated are ones which we believe would cause the most severe impacts under our proposed operating conditions. Management requirements and mitigation measures in chapter II substantially reduce the likelihood of any of these accidents ever occurring.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments Scientific Analysis:

It appears that many hours of searching research papers had occurred to be able to publish this document. The true scientific analysis by unbiased researchers is the only papers needed.

Why? Simulated research projects can come up with any answer that the researchers want to publish. Assumptions has a part in a document that regulates how a forest will be managed for productivity.

Comments on Alternatives:
The Texas Farm Bureau pretends that you select alternative H.

Why? This alternative will give the land manager the alternative to use a more variety of tools to make what is left a more producing forest. Since the Chief of the USFS has directed both Forests to set up several thousands of acres under live even age management to abide to the NFMA-1976, Chemicals will be needed to maintain sustained yield.

Other: Chemicals can be used on hardwood sites by selective application to achieve desired results. Experience shows that hardwood will come back after being set back by chemical or fires.

Why? Proper use of any method reduces chance damage as an accident.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Mack MI Lee Last Little (Organization)
State Cherokee Forestry Command, Tel. Texas Farm Bureau
Street
City Elizabethton State TX Zip Code 75901

Tear at perforation

Response to Comments in Letter No. 127

From: Mack L. Little

Comment No.

Response

- 1 Your preference for alternative H because it has the greatest option for managers was included in content analysis of all comments received.
- 2 We agree. Any method must be properly used. Training, experience and proper supervision are essential. We are requiring management requirements and mitigation measures in chapter II to ensure proper use of all methods.

Dear Mr. McCoquodale,

I appreciate the note that I received in the mail today.

As a concerned citizen I would like to give my opinion on vegetation management in the National Forests. However, I do not have the 20 hours that would be required to read the analysis that you provided for me.

I spent a total of seven hours trying to find the answer to a single question, during that period of time I could not find a justification for replanting clearcuts in ~~hardwood~~ pine. I understand the short term benefit of planting in pine; but, I believe that if all political pressure were disregarded, planting in hardwood would be the most beneficial long term alternative.

It seems to be assumed throughout the analysis that a clearcut has to be replanted in pine. Yet, the government is subsidizing the replanting of hardwoods in valuable delta farmlands along the Mississippi River. If we need more pine plant them in the delta.

Response to Comments in Letter No. 128

From: Jack B. Morris

Comment No.

Response

- 1 Suitability of specific sites for certain tree species is not a subject which was discussed in this EIS. Forest Land and Resource Management Plans and their accompanying EIS's contain discussions of this nature. They also prescribe the process used to determine how a site will be regenerated after harvest. Silvicultural systems and harvest methods are also not covered by this EIS. Likewise, information of that sort is found in Plans.

I f you will refer to my initial letter I believe that you will find justification for replanting clearcuts in more desirable species of hardwood such as pecan and oak. These species provide more food for wildlife as well as a more valuable wood product when it is harvested. I have listed other justifications in my initial letter.

It is discouraging for private citizens ~~and~~ such as myself to see that private interest groups ~~are~~ like the paper companies have enough power to have our national forests converted to pulp factories. On the other hand I do not have the same opinion that more conservative groups such as the Sierra Club has on this matter either.

I believe that if a ~~well~~ well developed long term plan is ~~developed~~ utilized, (200-500 years) the average citizens will benefit the most. Not only those citizens that visit the national forest occasionally; but, also those who live in and near these lands. Those people who derive their livelihood from these lands.

National Forests provide a great variety of goods and services (far more than pulp). A very difficult objective is to somehow balance this productive capability with the wants and needs of this generation while at the same time ensuring that the next generation may also enjoy forests. As shown on page II-12 of the Draft EIS, vegetation management occurs in at least 13 program areas, very little of which is related to pulp production, and less than half of which is related to timber management.

I hope that you understand that the public lands that are in question do not only belong to the citizens that are them. They also belong to those who live hundreds and even thousands of miles from them.

I believe that if you analyze the letters that suggest ~~the~~ the public lands should be clearcut and replanted in pine you will find that they are sent to you from those who will benefit economically from the situation. Those of us who will never receive a dime in monetary ~~compensation~~ compensation, those who love the national forests for their aesthetic value and their benefit to wildlife, we are the ones who are fighting the clearcutting + pine planting industries.

I feel that I speak not only for my fellow club members, but also thousands of other outdoor enthusiasts who have no monetary stake in this decision. We do not want A National Pine Forest!

Sincerely
Jack B. Moran

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why? *only in the early stages of mind. The material is so broad volume of material. He never brought on the main the main material. The material is so broad volume of material. He never brought on the main the main material. The material is so broad volume of material. He never brought on the main the main material.*

Comments on Alternatives:

Why? *of the volume of material. He never brought on the main the main material. The material is so broad volume of material. He never brought on the main the main material.*

Other:

Why? *of the volume of material. He never brought on the main the main material. The material is so broad volume of material. He never brought on the main the main material.*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Louise Last Deel
MI 401 N. Wayle (Organization)
Street 1111
City Lawrenceville State GA Zip Code 30046

Tear at perforation

Response to Comments in Letter No. 129

From: Louise Hall

Response

Comment No.

- 1 The Interdisciplinary Team is pleased you found the EIS unbiased.
- 2 Your preference for alternative D was included in content analysis of all comments received. Under alternative D you are correct in assuming people would be employed doing manual treatments. However, employment levels (overall) hardly vary between alternatives C, D, E, F, or G (see table II-8). That is, there is no noticeable impact on employment. Our analysis does disclose, however, that because alternative D treats many acres using manual methods (table II-4), it results in the highest accident rate of all alternatives (table II-7).
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

I am strongly against future herbicide use for vegetation management. Because of the risk to humans and all forms of life. How sad it is. How can we be so dumb as to what we are doing to our garden of eden.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside a drop in the mail (no postage necessary).

Sherry B. MORRIS
 Name: First MI Last (Organization)
216 Spaulsb OAKS Dr.
 Street
George town TX 78628
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 130

From: Sherry B. Morris

Comment No.

Response

1 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

JOHN T. BAKER
HCR 62 BOX 394
DEER AR. 72628-9409
Oct 9 1989

STEVE MCCURQUADALE,
USDA FOREST SERVICE
1720 PEACH TREE ROAD
ATLANTA, GA.

I WOULD LIKE TO SAY I AM
WRITING THIS LETTER AS PART OF
THE PUBLIC COMMENT ON GROWTH
MANAGEMENT TECHNIQUES.

MY RECOMMENDATION WOULD BE
TO USE MECHANICAL AND/OR MANUAL
TECHNIQUES AND TO AVOID USE OF
CHEMICAL HERBICIDES ~~AND/OR~~
ENTIRELY UNLESS IT WAS SOMETHING
LIKE CALCIUM CHLORIDE OR SODIUM
CHLORIDE. THE UNWANTED GROWTH
(OVER)

Response to Comments in Letter No. 131

From: John T. Baker

Comment No.

Response

1 Your preference for mechanical and manual methods and avoidance of herbicide methods was included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

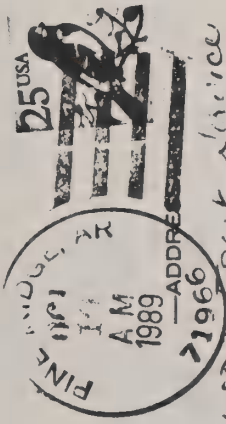
- (a)
- 2
 (CUD) INITIALS BE KNOWN DOWN TO NEAR GROUND LEVEL OR UP-ROOTED AND THEN LIGHT BLOCKING TECHNIQUES COULD BE USED LEAVING SMALL HOLES FOR THE NEWLY PLANTED TREES TO COME THROUGH, SOME RATHER DURABLE BLACK PAPER OR GRAPE PAPER COULD BE USED, ALSO HEAVY COVERINGS OF LEAVES. I AM INCLINED TO THINK THAT THE TESTING OF HERBICIDES HAS BEEN UNRELIABLE. AS TO 2-4-D, LONG CHAIN CHEMICALS, AS TO DANGER OF CANCER AND LIVER DAMAGE. THERE ARE ACCOUNTS OF WORKERS IN GRAPE VINEYARDS AND FARMERS IN A CERTAIN REGION OF KANSAS HAVING CONSIDERABLE TROUBLE WITH CANCER FROM AGRICULTURAL SPRAYS IF LIGHT BLOCKING PAPER WERE USED SMALL PUNCT HOLES WOULD ALLOW RAIN THROUGH AND WOULD HELP PREVENT MILDEN.
- 3
Conceptual Critique
 John T. Baker

2 Techniques like you suggest which prevent sunlight from reaching portions of the ground have found reasonably wide application in landscaping and in some forms of agriculture. We cannot envision these techniques being used in broad forest areas though, and we would be concerned about potential effects on grasses, forbs, and shrubs as well as ground-dwelling fauna and micro fauna.

3 All testing data we used in our analysis has been reviewed by EPA or published in the open scientific literature. Any tests which were invalidated were not used and any reports which had not been scientifically reviewed were not used. We are not aware of unreliable data in the EIS. (The Kansas study referenced has not been found to adequately assess risk to farmers. While it shows the need for research, it did not establish a true causal link between pesticides and cancer as this comment indicates.) 2,4-D is not proposed for use in the preferred alternative.

Greetings from
LUM 'N' ABNER TOWN
Pine Ridge, Arkansas

RE: USES VMDEIS
Please support
Vegetation Management
or D in the Ozark
of Quercus (Tato)
to reduce herbicide
use. *Starco Print*



21966
USDA Forest Service
1720 Beahm Rd NW
Atlanta, GA 30367

STARCO PRINT, MENA, ARK

Response to Comments in Letter No. 132

From: Unreadable Name

Comment No. Response

- 1 Your preference for either alternative B or D was included in content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Dear Sir,

11 Oct 89

First let me thank Mr. McCaughle for sending a notice on the final date for receiving comments.

Now, cutting the fat & getting to the meat. I am a conservationist & a nature freak.

1 My concerns are for less use of herbicides, more recreational acreage & a drastic cut in the timber sales. There are other uses which could generate revenue other than cutting paper of pine trees.

2 My choice in the plans of EIS.

are B or D. One main factor of this choice is the herbicide presence - as an active person who enjoys outside, it scares me to think I may have to carry water on an excursion thru a destroyed rain forest.

When I am uneasy about consuming ground water from an ecosystem that normally contains crystal sparkling water, it is startlingly apparent the power of the corporations threatens the existence of the resources & people which aids their existence.

Let us reflect greed w/ logic & reduce our poisoning of the planet. You can't get off this bubble - the one called Earth.

Response to Comments in Letter No. 133

From: Gary P. Tanner

Comment No.

Response

1 Allocation of national forest lands to particular outputs, such as recreation or timber, is done through Forest Land and Resource Management Plans, their accompanying EIS's and Records of Decision, and the budget process. This EIS deals specifically with vegetation management which is often done to support those resource allocation decisions.

2 Your preference for alternative B or D with less herbicide use was included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

I respectfully offer my opinion & am very grateful for a democratic process which allows for private input.

It is just terribly easy to spend other people's money & corporate money exerts too much influence in all phases of government.

Sincerely,

Gary P. Turner

Gary P. Turner

HC67 Box 135

Waldron, Ark.

72958

Much of our analysis was developed based on public input and management need. It is unfair to suggest that we somehow responded more or less favorably to a particular element of the public based on financial status. Throughout the process we have endeavored to maintain openness with everyone interested. We believe that chapter V, part D and chapter VI, part C are indicators of our desire to consider all interests fairly.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Attention USDA Forest Service

October 7, 1989

I have read the Environmental Impact Statement for Vegetation Management in the Ozark/Alachita Mountains.

In view of the wide range of decisions, I will voice my own decision:

The Ozark National Forest shall be managed through natural processes. Chemicals of any kind will not be used upon the natural vegetation in these forests. Clear cutting will be maintained in 40 acre sites alternate to 100 acres in natural forestation. This will insure the impact of the duration for vegetation natural in the Ozark National Forest.

My opinion is the Ozark National Forest should be allowed to its most natural state. Vegetation Management should be minimal and certainly should be completely without any chemical usage.

Cordially

April Wallace
P.O. Box 65
Gasper, Arkansas
72641

Response to Comments in Letter No. 134

From: April Wallace

Comment No.

Response

1 Your opposition to herbicide use was included in content analysis of all comments received.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plan or each national forest.

Route 3, Box 241-1
 Jacksonville, AR 72076
 11 October 1989

Mr. Steve McCorquodale
 USDA Forest Service
 Suite 951
 1720 Peachtree Road, NW
 Atlanta, GA 30367-9102

Dear Mr. McCorquodale: Thank you for reminding me concerning the Environmental Impact Statement about vegetation management on national forests in the Ozark/Ouachita Mountains. I received it, but have mislaid the comment form, which, if I remember correctly, was enclosed with it.

Although I am no authority on the matter, I know that vegetation management is bad. Our forests were set aside as areas to be preserved in their natural state. When arrogant graduates of agriculture and forestry schools think they know more than God does about managing a forest, not only the trees and wildlife but also mankind generally suffer.

Please leave the national forests alone!

Sincerely,

Ann Kersey Cooke

Ann Kersey Cooke

Response to Comments in Letter No. 135

From: Ann Kersey Cooke

Comment No.

Response

1

Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining, and road construction. A more contemporary statement of purpose is found in the Multiple-Use Sustained-Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, timber, watershed, range, and wildlife and fish purposes. Preservation is an important aspect of management of some parts of national forests, but it is not the purpose for which they were established.

10-13-89

Dear Sirs,

I am a concerned citizen from Dallas, Texas. I am aware of the use of herbicides by the USFS for vegetation management and I am opposed to any future use.

Herbicide use on public land involuntarily exposes these extremely sensitive people which exhibit a range of reactions from lower than-normal to observed effects levels to many possible toxic reactions thus exposing them to unacceptable risk.

Neurological and immunological data is unavailable for all herbicides listed since EPA doesn't require these at present. These impacts are not considered. The fact that herbicide applicators have frequently complained of headaches from breathing vapors all day is one example of a situation which indicates a need for these studies.

The above statements are just a couple of examples of why I support the Newton County Wildlife Association's modified alternative D, with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards alternative A, no action.

I value my physical and my mental health, thus I do not believe the risks are acceptable for herbicide use to manage our public lands. I love the forests and "getting away" on the weekend from the city. I only hope that you will be sensitive to my comments thus providing safe and relatively unaltered forest land for all to enjoy.

Sincerely,
Dana Geldon

Response to Comments in Letter No. 136

From: Dana Geldon

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received.
- 2 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk. Sensitive individuals must also use common sense and avoid areas which have been treated with a herbicide to which the individual is sensitive!
- 3 Neurotoxicity and immunotoxicity are data gaps identified in our Draft EIS. The limited data available relevant to peripheral neuropathy, dizziness, headaches, etc. are presented in the Risk Assessment (Draft EIS, appendix A). At present there are no generally accepted testing protocols for most immune system or nervous system damage. While observations are available, further study and prediction is limited by this lack of generally accepted scientific methods.
- 4 Your preference for a modified alternative D which reduces total acres treated and emphasizes manual methods was included in content analysis of all comments received. Integrated Pest Management (IPM) requires a full variety of tools be available. IPM is a much used and poorly understood concept in forest protection. It is a decision-making and action process incorporating biological, economic, and environmental evaluations of pest-host systems to manage pest populations. Unfortunately IPM is often erroneously interpreted as being an alternative to chemical pesticides. Because alternative D does not include herbicides as an option, it is not truly an IPM alternative.

Camden, AR
Oct 15, 1989

U S D A Forest Service,

In regards to the EIS about vegetation management on National forest ~~at~~ in the Ozark-Ochlocknee mountains I feel that alternative D is the best choice.

The abloshing of the herbicides are of great concern to me, many experts say they are harmless, but there is strong evidence that the health of herbicides are unknown. As was DDT & the eagle eggs. Remember "Silent Spring"?

And if I understand you correctly the amount of pines would only increase in small numbers. And grasses NO I don't want the hardwood to decrease like if any. That is a part of our unmatched beauty.

The fire treatments appear good as intense heat is ^{not} (over)

Response to Comments in Letter No. 137

From: Thera Lou Adams

Comment No.

Response

1 Your preference for alternative D which does not allow herbicide use was included in content analysis of all comments received.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2 This EIS does not make determinations of which species will be regenerated on specific sites. There is no data presented regarding the percentage of pine or hardwood, or any changes in those percentages. Forest Land and Resource Management Plans and their accompanying EIS's set criteria for determining which species will be regenerated on specific sites, and they discuss relationships between hardwoods and pines across the forest.

used.
I am writing on behalf of
myself and not a group. . .

Theresa Lou Adams

POI 88871

Camden, A.L.

7/701



KILILEEN HILTON

222 Los Santos
 Garland, Texas 75043
 10-13-89

US Forest Service
 1720 Penitence Rd, N.W.
 Atlanta, GA. 30367

Re: Draft Environmental Impact Statement for Vegetation
 Mgt in Oak & Ouachita Mountain.

Gentlemen:

I am opposed to any continued or future herbicide use by USFS because of extensive data gaps in both the human and wildlife risk assessment as stated on pages III-8-89, and III-66-67, volume I. Herbicide use on public land involuntarily exposes extremely sensitive people who react to lower ranges of herbicide to extreme risk which is unacceptable. I feel the risks are unacceptably high and feel justified in recommending our public lands not be managed in such a fashion. There are too many unknowns left open.

Furthermore I'm opposed to using vegetation management plans to endanger or remove plant & wildlife habitats. Sensitive mechanical site preparation is also unacceptable because of the effects on the soil & water quality in the region.

I favor and support, by reference, the NCHSA (over)

803 East Central Texas Expressway Killien, Texas 76541 817-526-4343
 Reservations 1-800-HILTONS

Response to Comments in Letter No. 138

From: James A. Vornberg

Comment No.	Response
1	Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
2	Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.
3	In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk. Sensitive individuals must also use common sense and avoid areas which have been treated with a herbicide to which the individual is sensitive.
4	Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.
5	The preferred alternative allows only low to moderate intensity mechanical treatments. The only alternative which allows high intensity treatments is alternative H.

5 Modified alternative D with reduced total vegetative management, the use of mechanical & fire methods on a low intensity basis only, primarily using manual methods only with an integrated pest management approach leaving "alternative A" - no action.

I do not believe the risks are acceptable for herbicide use and feel public lands should be managed without them.

Thank you for your consideration of these comments.

Sincerely yours,

James A. Varuleg, Ph.D.
Concerned citizen

5

Your preference for a modified alternative D which reduces total acres treated and emphasizes manual methods was included in content analysis of all comments received. Integrated Pest Management (IPM) requires a full variety of tools be available. IPM is a much used and poorly understood concept in forest protection. It is a decision-making and action process incorporating biological, economic, and environmental evaluations of pest-host systems to manage pest populations. Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Because alternative D does not include herbicides as an option, it is not truly an IPM alternative.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

October 12, 1989
P. O. Box 493
Mansfield, AR 72944

Dear Mr. McCorquodale:

While many groups seem to desire Alternative A (No Action) they continue to demand wood products on a daily basis. Their use of paper alone is excessive and, with the amount of "fertilizer" many generate, toilet paper alone demands the use of many trees for paper pulp.

On the other hand, there seems to be another group which favors any alternative which will allow them to make big bucks off of our National forest.

You are put in the awkward position of trying to please as many people as possible and still manage the vegetation on the forest. I first want to wish you good-luck in this impossible task and then comment on the things that I feel are important considerations.

Although Alternative F seems to be well-planned, close monitoring of herbicide use must continue on treated sites and modifications made as they become necessary to benefit wildlife and to prevent erosion. Particular attention should be given to cumulative effect on wild-life.

The use of granular herbicides seems to hold at least some threat for ground feeding avian species such as bobwhite quail (*Colinus virginianus*), chapter IV, page 65, *Deis* Volume I. This should be very closely monitored.

The use of herbicides with adjuvants, which are toxic to the European Honeybee, should be avoided at times of high bloom density (spring and fall) in areas where *Spidelliferi* is known to forage for pollen and nectar (everywhere). As a bee keeper, I am concerned about this resource for personal reasons (loss of income) as well as the loss which could occur if honey bees failed to pollenate many flowering forest species.

While I found no mention of wildlife plantings in either volume, attention should be given to plantings of legumes and seed producing species in wildlife openings, right of ways, and old (closed) roads. Soft mast shrubs, clovers, lespedesas and vetches should replace red creeping fescue in all cases. Native grasses and small grains would be preferable for quail, deer, turkey and many other wildlife species. These plantings would help off set some of the food/forage loss due to herbicide use and prescribed burns.

Response to Comments in Letter No. 139

From: Howard Robinson

Comment No.

Response

- 1 Management requirements and mitigation measures in chapter II define some monitoring requirements, particularly in the areas which concern you. Forest Land and Resource Management Plans also contain monitoring requirements. Additionally, when the Record of Decision is issued following the Final EIS, provisions will be included to ensure validity of predictions of effects.
- 2 The products proposed for use are briefly described on pages II-27 through II-31 of the Draft EIS. Only hexazinone is available in a granular formulation. This limited availability of granulars coupled with alternative F's theme which stresses selective treatments should minimize the problem you address.
- 3 Toxicity to bees is discussed in appendix A, the Risk Assessment. High sensitivity of bees to specific herbicides is reported only for diesel oil, kerosene and limonene additives used to improve the penetration of herbicides through either waxy leaf surfaces or bark. The herbicides evaluated are not highly toxic to bees. In addition most of our applications do not occur during bloom; and alternative F emphasizes selective rather than broadcast treatments which further reduce risk to bees.
- 4 Wildlife plantings, just timber regeneration, are beyond the scope of this EIS. However, each alternative (except A) allows for maintenance of these plots.

In all cases, prescribed burns, herbicide application and other control methods should be site-specific and impact on wildlife should be minimized at all times.

Thank you for the opportunity to comment on this DEIS.

Sincerely,



Howard Robinson

October 15, 1989

USDA Forest Service
Suite 951
1720 Peachtree Road, NW
Atlanta, GA 30367-9102

Attn: Steve McCorquodale

1 I received your postcard reminder about comments on the EIS for vegetation management on forests in the Ozark/Ouachita Mountains. Thank you for keeping me informed; I am impressed by the diligence which you and your team have exercised concerning this EIS.

2 I spent many hours reading the EIS because I wanted to be informed, and I wanted to help shape the resulting land use policies. However, the more I read, the more confused I became. I was not confused about the technical information included in the EIS. Rather, I realized that I did not understand the process being followed by the Forest Service. Since I didn't understand the overall process, I obviously didn't understand the function of the EIS within that process. Therefore, I couldn't know what types of comments are appropriate at this time. Hence, my delay in submitting my ideas.

3 In the remainder of this letter, I will make some statements and ask some questions. Hopefully, you can provide answers which clarify the EIS process. Maybe I will receive your response in time to still make more valid comments by November 6. If not, your reply will certainly help me understand future EIS procedures.

First, I apparently missed out on the alternatives development process. Was public input solicited by mail at that time? Why would I receive a copy of the EIS and not be included in the prior activities?

My most basic question: are you now asking for comments concerning the scope and wording of the eight alternatives, or just on the technical information presented about each? Would it be appropriate at this time to suggest another alternative, or are the choices fixed (these eight)? Frankly, my most outstanding impression from reading the EIS was the similarity of the alternatives. For example, acres treated per year are the same for all Alternatives except Alternative A (which is obviously unacceptable for many reasons). Also, the use of prescribed fire varies very little between most alternatives. I would have liked to see a broader variation between the alternatives. I suspect (but am asking confirmation) that the evaluation procedure is too far along for these types of comments. True?

Assuming we are currently limited to the eight alternatives, I was pleased with the technical information presented on the environmental impact of each. I imagine that

Response to Comments in Letter No. 140

From: Dave Christie

Comment No.

Response

- 1 The Interdisciplinary Team is pleased you feel diligence was exercised in informing the public.
- 2 Generally, the process we followed is the one outlined in the Council on Environmental Quality Regulations 40 CFR, Parts 1500-1508. This process is similar for all environmental impact statements. Parts of that process are described in chapter VI of the Draft EIS.
- 3 The alternative development process began with the step called "scoping for issues," wherein we solicited opinions from several hundred people who had indicated an interest in national forest management. You responded to that solicitation on 7/5/88 (our internal code No. Z146). Review of the Draft EIS presents another opportunity for comment. There are no restrictions on the types of comments which can be made. However, the most useful ones deal with adequacy of the technical analysis and responsiveness of the alternatives to individual concerns.

October 15, 1989

- the types of comments which you want are those dealing with oversights or misinformation presented in the EIS. If so, I only have a few which follow.
1. I think you underestimate the in-the-field misuse of "controlled fire". I agree that controlled fire is a desirable tool. However, I don't agree that it will always be applied under perfect conditions. The EIS states that factors considered when using prescribed fire include "project objectives, fuels, topography, weather, time of year, smoke dispersal, and fire behavior". I submit that there will never be a time when all of these are exactly favorable for prescribed fire, but that in many cases the firing will go on anyway. In the evaluation of herbicide effects, you considered the environmental impact of several scenarios (typical, worker, and accident). I feel that some scenarios of "less than controlled" fire should have likewise been evaluated. In these cases, the environmental impact of fire will be much greater than assumed by the EIS.
 2. Regarding herbicides:
 - a) I think it's naive to assume that workers will always carry separate water for drinking and for washing, and that they will never wash (even in a spill situation) in the creeks of the National Forest. I think that the mitigation procedures will be winked at, leading to much higher than anticipated aquatic impact.
 - b) I think that in the long run workers will become careless through daily handling of herbicides, and that worker exposure will be much higher than you imagined. I'll bet the maximum worker exposure will occur relatively frequently. I'll bet there will be exposure of workers' food (lunches) to the herbicides.
 - c) I was quite disturbed by the lack of concrete information concerning the various effects of most of the herbicides, especially upon the non-human environment (e.g., reptiles). The EIS states that "toxicological data are unavailable for most (wildlife) species occurring in the Ozark and Ouachita mountains". It also states that "we face overwhelming number of (wildlife) species with data gaps and inconsistencies in data". Many of the conclusions concerning herbicide effects were based upon what I would consider very tenuous modeling procedures. I agree that the cost (in delay and money) of obtaining absolute test results is prohibitive. However, I think we should apply very large safety margins when the results are based upon such extreme extrapolation. I don't think herbicides were penalized enough for this lack of concrete data.
 - d) I was not convinced that hunters will not be threatened by herbicides from eating game taken from treated areas. Because of the large number of people exposed, I think more consideration should be given to this subject. Effects on those consuming game might vary widely between different types of game

- 4 Mitigation measure numbers 1-18 on pages II-46-50 of the Draft EIS are required to prevent adverse effects you describe. The written site specific burning plan has numerous parameters in which prescribed burning can occur. These parameters are designed to protect the resource and provide for a margin of error. If the conditions change outside the parameter during the burn, then the decision is to extinguish the burn. Uncontrolled burns are not planned and with stringent guides should rarely occur. When they do occur, effects range from those of a low to severe prescribe burn.
- 5 The requirement to carry separate water for drinking and washing is mandatory and is already being adhered to.
- 6 Carelessness is being dealt with through our top-quality applicator certification program and through close supervision. Nonetheless, we are also conducting field exposure studies at this time so as to have realistic field data to compare with our projections.
- 7 The Risk Assessment (appendix A) details the exhaustive analysis process used to determine risk of toxic effects to wildlife. Even though a very conservative approach was used throughout the analysis to deliberately overestimate potential adverse effects, few of the herbicides were predicted to pose a significant toxic risk to animals. Distance standards for protection in those instances where risk may be significant (as with threatened, endangered, proposed and sensitive plants) are in accordance with standards established by EPA and FWS. Herbicide treatments within habitats for threatened, endangered, proposed, and sensitive species must be 100% selective (applied directly to individual target plants) and in accordance with mitigation numbers 20 and 21 (page II-57 Draft EIS), which reduces potential risk to these species to a minimal level.
- 8 Acres treated range from 0-126,000 acres at four levels as shown on table II-4 on page II-66 of the Draft EIS. We felt that this range plus varying intensities provide an opportunity to adequately analyze the effects of various of various vegetation management programs.
- 8 In order for hunters to be affected as you suggest they must be exposed. This assumes either bioaccumulation in the game species the hunter may consume or direct contact with treated areas where the hunter may walk. Pages 3-27 and 3-28 of appendix A disclose the improbability of bioaccumulation, and mitigation measure 16 on page II-56 of the Draft EIS minimizes direct contact.

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animals. The source of any toxic effects might very difficult for the victim's doctor to recognize or trace.

- 9 e) I can't find that reproductive effects of herbicides on wildlife (such as thinning of egg shells) were considered in this study.
- 10 f) I think there should be a mitigation procedure to protect forest users (hunters, hikers, etc.) who might unwittingly be using a forest area during (aerial) or just after (all application methods) herbicide application.
- 11 The EIS assumes an annual vegetation treatment of 101,174 acres. How was this figure derived? Is it related to the existing Land and Resources Management Plan? Have the specific geographical areas to be treated been identified? Why were differing amounts of treatment (acres/yr) not considered as alternatives?
- 12 Alternative F is identified as the preferred alternative. I don't understand several things about this designation. Was this alternative identified as "preferred" when the alternatives were proposed (prior to the EIS)? Or is the "preferred" designation based upon the information presented in the EIS?
- 13 Surely, environmental impact is not the only factor considered by the Forest Service in deciding how to manage the forests. What other factors (other than environmental impact) were considered when reaching the conclusion that Alternative F is preferred? If there were other factors, how were they weighted, and is this process documented somewhere? I especially wonder if implementation cost was a factor?
- 14 Does the designation of "preferred" mean that Alternative F is the plan which will be implemented by the Forest Service? If not, what are the next steps in the planning process? How does the EIS fit into these steps? Will the existing Ozark St. Francis Land and Resources Management Plan eventually be altered?
- 15 I think that the Forest Service has control of another vegetation management method which is not considered in the EIS. That method is the setting of public use and access policies for the forests. For example, a change in policy concerning the restriction of Off Road Vehicles would certainly have an impact on National Forest vegetation. Likewise, decisions to restrict wildlife harvest, logging, grazing would directly affect the vegetation. In these cases, the local impact is often slight, but the impact is also spread over much more than 101,174 acres per year; thus the cumulative effect could be great. This vegetation management "tool" procedure is probably more indirect, subtle, and hard to evaluate than those considered in the EIS. However, it is a method whereby deliberate Forest Service activities (policy setting) manage (alter) the vegetation. Maybe it should be evaluated in the EIS.
- 16 I realize that a great many dissimilar factors must be weighed against each other, but I think the EIS sidesteps its objective by not ranking the alternatives from 1 to 8 in order of increasingly severe environmental impact. Otherwise, the EIS is just a

- 9 All known effects of the evaluated herbicides and additives have been disclosed in the Risk Assessment. Incomplete formation of egg shells (not truly a "thinning") is reported for some other herbicides but was not found to be associated with the products reviewed in this EIS.
- 10 Mitigation measure 16 on page II-56 of the Draft EIS minimizes the potential for direct contact by the public. Aerial application of herbicides is not being proposed in the preferred alternative.
- 11 101,174 acres represents the number of acres which need to be treated to achieve the output objectives of Forest Land and Resource Management Plans. Alternatives A, B, and H vary from this total as summarized in tables II-4 and II-5 of the Draft EIS.
- 12 The preference for alternative F is based on information presented in the Draft EIS.
- 13 Sections B through F of chapter I, pages I-2 through I-11 of the Draft EIS give a very detailed description of how management bases its decisions. Rationale for a preferred alternative will be displayed in a Record of Decision following the Final EIS.
- 14 The alternative implemented by the Forest Service will be the one identified as "preferred" in the Final EIS and "selected" in the Record of Decision. If changes to Forest Plans are necessary they may also be done in the Record of Decision.
- 15 The kinds of decisions you are suggesting are land allocation decisions. These were made through the Forest Land and Resource Management Planning Process. This EIS picks up at that point and addresses vegetation management associated with those allocations.
- 16 The Council on Environmental Quality Regulations 40 CFR, Parts 1500-1508 require that the EIS be analytic, a disclosure document, and serve as a basis from which decision-makers determine actions. The negativity or positiveness of many environmental effects is in the "eye" of the beholder, and we have intentionally avoided superimposing our values so that you may reach your own conclusions.

October 15, 1989

compilation of data, and each armchair quarterback is left to read the EIS and draw his/her own conclusions. If the experts assembled for this team can only present facts and not draw conclusions, then we're managing our forests on "gut feeling" instead of technical know-how.

The EIS states many times that the alternatives are simply guidelines, and that site-specific evaluations must dictate the actual procedures to be followed in each vegetation management activity is planned. I don't understand what will keep the sum of the individual site-specific decisions consistent with the overall plan. In other words, what if the Forest Service adopts Alternative F, but through their site-specific evaluations they actually come closer to implementing Alternative G? This would let the field management override the official planning process. What prevents this?

This EIS is a monumental work to read, let alone to prepare. Does the Government have any idea of the overall start-to-finish cost of preparing and distributing this document?

In conclusion, let me again congratulate you and your team for a superb job. You asked for comments, and naturally this leads to criticisms of specific areas of the EIS. Nobody would even begin to have the time to comment on all of the good points of the EIS. Therefore, you shouldn't be discouraged when letters such as mine seem to dwell only on sour grapes.

Thank you for your time and consideration of my input.

Very truly yours,

Dave Christie
2201 Mountain Drive
Bartlesville, OK 74003

17 Monitoring is built into this EIS and its mitigating measures. Please see numbers 26 and 27 on page II-46 of the Draft EIS. The Record of Decision will also prescribe steps which will allow us to evaluate how closely we achieve our predicted outcomes.

18 While the Council on Environmental Quality Regulations 40 CFR, Parts 1500-1508 are replete with admonitions to avoid duplication and waste, these regulations and their parent National Environmental Policy Act clearly intend that the cost of adequate environmental analysis should not be a consideration for failure to conduct the analysis on major issues such as use of herbicides. As a result of the study, we have made numerous changes that will enhance the environmental conditions on the national forest and provide valuable information to other agencies and private citizens.

19 The Interdisciplinary Team is pleased you feel we have done a superb job.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form tho; However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concern

Comments on Scientific Analysis: I consider the risks of large scale herbicide use to the environment unacceptably high.

Why? It has not been proven that such herbicide use has no short or long term harmful effect on humans, animals, and other plants.

Comments on Alternatives: I prefer no herbicide use. If tree management is necessary, I prefer manual methods, because it entails more local employment, why? and higher selectivity and thus less damage to the forest.

Other:

Why?

To return this comment sheet, fold and staple with USDA Forest Service address outside (use additional sheets as necessary).

Name: Michael L. Turner
First MI Last (Organization)
707 Crest Dr.
Street Fayetteville, AR 72701
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 141

From: Michael L. Turner

Comment No.

Response

- 1 Appendix A contains a Risk Assessment which deals with incomplete and missing information on herbicide effects on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22.
2 Your preference for use of manual methods rather than herbicides was included in content analysis of all comments received. Alternative D in the Draft EIS responds to this preference. Various parts of chapter IV disclose possible effects from manual treatments. Of particular interest are the health and safety effects described on pages IV-25 through IV-29 and effectiveness discussions on pages IV-59 through IV-62 of the Draft EIS.

10/16/89
Looks good to me.
No comment.

United States
Department of
Agriculture



Forest Service
Southern Region

Dear Reviewer:

Jason N. Kutack

You should have received our Environmental Impact Statement about vegetation management on national forests in the Ozark/Ouachita Mountains. We're sending you this note to remind you the comment period for the EIS closes November 6, 1989. Please help us by sending your comments before November 6.

Write or give us a call at 404/347-7076 if we can help in any way.

Steve McCorquodale
STEVE MCCORQUODALE, Team Leader

Response to Comments in Letter No. 142

From: Jason N. Kutack

Comment No.

Response

1 Thank you for reviewing and responding to the Draft EIS.

Respondent asked that her letter not be printed.

Response to Comments in Letter No. 143

From: Jessica Johnston

Comment No.

Response

- 1 Harvest levels are established through Forest Land and Resource Management Plans and through Congressional appropriations. They are not within the scope of this EIS.

OZARK ORGANIC GROWERS ASSOCIATION

HCR 72 • Box 35 • Parthenon, Arkansas • 72666 • (501) 446-5604



USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

10/15/89

Re: DEIS: Vegetation Management in the Ozark/Ouachita Mountains

To Whom It May Concern,

I am writing as a concerned farmer in the Ozarks as well as President of the Ozark Organic Growers Association and Coordinator of the Ozark Small Farm Viability Project, collectively representing the views and concerns of over 600 members living in the Ozarks.

The USFS preferred plan (Alternative F) for vegetation management in the Ozark/Ouachita Mountains is seriously flawed in its analysis of its economic and environmental impacts and, if implemented, will have significant negative effects on the quality of life of residents of the region, humans as well as flora and fauna. Please consider the following concerns while developing your final plan:

ECONOMIC ANALYSIS

Your analysis is seriously biased in favor of herbicide treatments due to inadequate consideration of external or "hidden" costs, particularly in regards to ground and surface water contamination, impact on human and animal health, and diversion of potential regional income to out-of-region interests (ie: herbicide manufacturers). What is the cost of cleaning up our fragile groundwater when it becomes polluted with a persistent herbicide? What is the cost, in terms of human lives, of an increased cancer rate attributable to contaminated water, treated firewood, and toxic residues on ginseng, huckleberries, mushrooms and other wild foods, including game? What is the cost, in terms of lost income, when chemical companies benefit from herbicide sales which replace manual or mechanical practices thus eliminating local jobs? These are very real costs associated with your preferred alternative yet you have neglected to factor them into your analysis. Had they been considered it would quickly be seen that all alternatives dependent on herbicides carry a very dear cost and are economically unfeasible. These hidden costs are not found in proposal D, which includes no herbicide use, placing it at a distinct disadvantage in an economic comparison which neglects these factors, thus reflecting the bias of your analysis.

ENVIRONMENTAL IMPACTS

I imagine you will counter the argument made above by asserting that the particular herbicides being used are non-persistent, non-carcinogenic, and will not find their way into our water or food chain, or if they do they

Response to Comments in Letter No. 144

From: Gordon Watkins

Comment No.

Response

- 1 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 2 No evidence or projection from data presented in the EIS suggests the potential for an increased cancer rate attributable to the projected low level use of herbicides. Please see chapter IV discussion of herbicides and analysis of cancer potency beginning on page 3-40 of appendix A, volume II.
- 3 Externalities exist in all alternatives, and they were equally ignored because rigorous economic analysis was not desired by most people who commented. Many people suggested that if any economic analysis is done that it be a simple display of costs. Most found analyses such as those done in support of Forest Land and Resource Management Plans to be overly complex, confusing, and extremely difficult for the lay person to understand. Because this EIS incorporates the goals and objectives of plans, it necessarily incorporates plan's economic analyses, which, for those who request more detail, respond to that need.

are harmless. However, this assertion is based on EPA studies which contain serious data gaps, particularly in regard to synergism, metabolites, and long-term effects. While there may be information on the synergism (effects of mixing) of active ingredients, little is known about the effects, synergistic or otherwise, of the metabolites or breakdown products of the active or inert ingredients. Roundup, for example, produces a metabolite which is being closely studied because of concern that it is carcinogenic. We were told by the USFS that 2,4,5,T was "safe", yet it was found to contain a contaminant, Dioxin, which proved to be the most toxic material produced by man. There is also little information about the effects of long term exposure to herbicides. Carcinogens often don't raise their ugly little heads for 10, 20 even 30 years after exposure and most of the herbicides proposed in your plan have not been subjected long term studies.

Toxic materials do not have "constitutional rights". They are not innocent until proven guilty, yet the EPA, which the USFS uses as its source of information, allows registration for materials which have been inadequately studied and are not proven safe. The risks associated with these unknowns are unacceptable, particularly when there are viable alternatives.


OTHER CONCERNS

- Assumptions about "acceptable risk" are unacceptably subjective. Acceptable to whom?
- Quantitative risk analysis is an unproven tool for predicting results
- Worst case analyses are too conservative.
- Bioaccumulation of herbicides is inadequately assessed .
- Adverse effects of herbicides on biological diversity is not assessed

THE ALTERNATIVE

This DEIS fails to consider a full range of alternatives as required by law. However, I support alternative D, as modified by the Newton County Wildlife Association which eliminates the use of herbicides, reduces total acres of vegetation management, promotes the use of mechanical and fire methods on a low-intensity basis only, and depends primarily on manual methods of vegetation management with an emphasis on integrated pest management.

I do not believe that the risks associated with herbicide usage are acceptable under any conditions, but particularly when workable alternatives exist. I hope you will consider the views presented here when developing your final plan and urge you to eliminate the usage of toxic materials on public lands. Thank you.


Gordon Watkins
HCR 72 Box 34
Parthenon, AL 36056

4 We are unaware of any scientific data supporting the allegations made here about Roundup. Nor, based on the data we have disclosed, do we understand the fear of unspecified effects from improbable synergisms, cumulative effects, etc.

5 With reference to the "other concerns," we are unable to comment meaningfully. Sections in the Draft EIS deal with each of these subjects. Further comment would require speculation as to the inadequacy or subjectivity referenced.

6 Your preference for alternative D has been included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

USDA Forest Service
 1720 Peachtree Lake NW
 Atlanta, GA 30367

10/17/89

Dear Forest Service Policy Makers -

I am strongly opposed to chemical (herbicide) "vegetation management" in the Ozark & Ouachita National Forest.

I have multiple reasons for opposing this, including

- 1) Rejection of the idea of tree monocultures that these herbicide are used for so ecologically totally unwise. At is also grossly anthropocentric
- 2) The data concerning long-term deleterious effects upon the ecosystem of both herbicide & the subsequent vegetation & are insufficient to make adequate safety projections
- 3) Irreversible harm to the scenic & recreational aspects of our national forest that save the "hanging

Person
 Kathleen Thomsen Hall

Kathleen Thomsen Hall, M.D.
 Rt. 1, Box 144D
 Roland, Ark 72135 (501) 664-2572

Response to Comments in Letter No. 145

From: Dr. Kathleen Thomsen Hall

Comment No.

Response

- 1 Your opposition to herbicides was included in content analysis of all comments received.
- 2 Effects of herbicides on species composition are discussed in part C of chapter IV and are summarized in table II-7 on pages II-68 and II-69 of the Draft EIS.
- 3 Appendix A contains a Risk Assessment which deals with insufficient data on herbicide effects on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 1502.22.
- 4 Possible effects on visual quality are described in part J of chapter IV. Each vegetation management method produces specific kinds of effects. An EIS does not discuss impacts on Forest Service programs, only on the environment. Forest Land and Resource Management Plans establish output levels for recreational experiences of all sorts and discuss the relationships between these and other outputs.

Rose Wright
HCR 32 Box 31
Bass, Ark.

1
Am writing to let you know how I feel about you spraying the woods with any chemical. when manual release could be used. There is a great job shortage in this area & the woods should be cleared with the sweat & muscle of unemployed people & land tools. This would create jobs that are so badly needed in our area & get us in the front in "just saying No to Chemicals" you'd know the "chemical fix" is just like the "drug fix". Chemicals seem to be a quick, easy way to do things, but in the long run is it worth the cancer & other related illnesses? Is it worth you getting cancer or your children? What risks are acceptable? For whom?

Response to Comments in Letter No. 146

From: Rose Wright

Comment No.

Response

1 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

seems to me we take the risks & the chemical companies decide they are acceptable. Take DDT, Hydrochlorone, and lists by chemicals that at first were safe. What about the scientific aspect on our toxicology loaded bodies a playwright. Here is a true story. The Army paid a bunch of GI's hazardous duty said to walk go out to the Yucca Flats. I could & watch this neat small atom test & then go & see the results. This was 20 or 30 years ago. They told them it was safe. They swore that it was true. They said the tests were all acceptable, but acceptable for who? Well as you can guess the cancer rate for these guys & their offspring is about very high. Now tell me

why keep taking these
acceptable risks?

I demand if you are going
to play Russian roulette
with our lives at least
you monitor the spraying
& disposal of the herbicides
cleaning of equipment & the
rainfall after each rain
An independent conservation
group should be paid to do
this. Also the area should
be posted every few hundred
feet, everyone in the area
should be notified, & hunters
should be informed as well.

Please stop taking "acceptable
risks" with my children's & my
health & lives.

Thank You
Rose Wright
HER 32 Box 31
Bass, Ark 72612

Potential for causing adverse effects on non-target species is greatest when herbicides are broadcast on an area, which occurs with some ground application methods as well as aerial. These potential adverse effects are limited by mitigations covering choice of herbicides; application rates, methods, and timing; and use of buffers (Draft EIS pages II-52 to II-59).

Buffer strips for timber harvest have been specified in each Forest Land and Resource Management plan and are outside the scope of this EIS. Filter strips for prescribed fire and mechanical tools, whose width in feet must be at least 30 plus 1.5 times the percent slope, have been shown by research and monitoring to trap nearly all sediment from vegetation management activities before it reaches the stream (Draft EIS pages II-47 and II-52). Buffers for herbicide use (minimum 30 horizontal feet for ground application) have been shown by research and monitoring to keep herbicide concentrations in streams below 0.050 ppm (Draft EIS pages IV-98 to IV-101). Each forest may be more restrictive than these widths, but widening them for our EIS is not justified by the facts.

Please see mitigation measures 27-32 on page II-58 of the Draft EIS for disposal of containers and cleaning of equipment.

10/16/89

USDA Forest Service
1720 Peachtree Rd NW
Atlanta GA 30367

DENISE COLE
RT 1 BOX 143D
CASOT AR 72023

RE: DRAFT ENV. IMPACT STMT
VEGETATION MGMT IN
DEARKS/OUACHITA

- 1 I do not want herbicides used in the Ouachita National Forest because of incomplete + unavailable data concerning
- 2 1- Long + short term effects on workers public + non target flora + fauna
- 2- Cumulative + synergistic effects of herbicides.

Please use Alternative D.

Denise Cole

Response to Comments in Letter No. 147

From: Denise Cole

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in content analysis of all comments received.
- 2 Short- and long-term effects, cumulative effects, and synergistic effects are discussed in appendices A and C as well as in chapter IV. Appendix A contains a Risk Assessment which deals with incomplete data in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Chapter II contains mitigation measures which reduce or eliminate many of these effects as well as those to non-targets.

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- BARBARA BLACK MEYER
- MARK K. HALTER
- MANDALL I. HALL

Mr. John E. Alcock
Regional Forester

U. S. D. A. Forest Service
1720 Peachtree Road N.W.
Atlanta, Georgia 30367

Dear Mr. Alcock:

As a lifetime resident of, and land owner in, the Ozark Mountains, I wish to comment upon your management practices in the Ozark and Ouachita areas. I believe that the long term economic health of this state will best be served by a very conservative use of the timber resources in Arkansas. Clear cuts and systematic destruction of hard woods detract from the beauty of the region and will hamper Arkansas' efforts to attract quality jobs from industries seeking to find a better lifestyle for its employees.

I am not a member of the Sierra Club nor of any other environmental organization. I believe, however, that they best represent my views and the best interests of the state. Please consider this letter as a vote in favor of the use plan most favored by the Sierra Club and related organizations.

Thank you for giving me this opportunity to express my concerns regarding this matter.

Sincerely,

Paula Storeygard
Paula Jamell Storeygard

PJS:dws

Response to Comments in Letter No. 148

From: Paula Storeygard

Comment No.

Response

- 1 The issues of timber outputs and clearcutting are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each national forest.

SUGGESTIONS

for

Substantive Response to
U.S.F.S. VMDEIS

I am opposed to any future herbicide use by the USFS for vegetation management because:

- 1) of extensive "data gaps" in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, and III-66 & 67, vol 1.
- 2) VMDEIS makes unjustified assumptions about "acceptable risk" involved with herbicide use. Before one can determine if a risk is acceptable it is necessary to ask the question, "acceptable by whom?" The use of herbicides poses an unacceptable risk to me through possible ground water contamination, adversely affecting my quality of life.
- 3) of significant need for further research to fill these data gaps as stated on page IV-147, vol 1.
- 4) VMDEIS makes arbitrary use of quantitative risk assessment without an adequate data base, which was lacking for the majority of herbicides proposed for use.
- 5) no qualitative risk assessment was performed to determine the accuracy and verifiability of data used to fill large data gaps. Many times no risk was assumed even though no studies had been done to determine all possible effects.
- 6) herbicide use on public land involuntarily exposes those extremely sensitive people which exhibit a range of reactions from lower-than-normal "no observed effects levels" to many possible toxicity reactions thus greatly endangering their lives, and exposing them to unacceptable risk.
- 7) VMDEIS fails to assess final responsibility for any unforeseen adverse environmental impacts. The chemical companies that make the herbicides have warnings on the labels which read "use at your own risk". USFS application contracts place the responsibility for any spills on the contractor. Finally, we the people will bear the ultimate responsibility for these unforeseen impacts if we allow herbicide use to continue.
- 8) there are huge data gaps in the research information used for developing the risk assessment portion of VMDEIS and the scientific uncertainty in modeling used to fill these gaps was not discussed in the document.
- 9) it is my perception that the risk is unacceptably high and feel justified in recommending that our public lands not be managed in this way.

Response to Comments in Letter No. 149

From: John Barford

Comment No.

Response

- 1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 2 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg, one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.
- 3 See our response to comments in Letter No. 3, Comment No. 2 regarding your concerns about groundwater.
- 4 We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.
- 5 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking we identified the lack of data and explained how the Risk Assessment dealt with the gap.
- 6 We are unclear as to the purpose or meaning of a "...qualitative risk assessment..." 40 CFR 1502.22 requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on quality and relevance to the process.
- 7 The criterion proposed "...to determine all possible effects..." is at variance with 40 CFR 1502.2(b) which states: "Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues..." and also is inconsistent with 40 CFR 1502.22 which deals only with "...reasonably foreseeable significant adverse effects on the human environment..." "...All..." is not an acceptable criterion.

- 6 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.
- 7 He agree.
- 8 Parametric statistics do not apply to data which is estimated using analogy - a non-statistical technique firmly based in science and generally accepted by the scientific communities.
- 9 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

- 10) VMDPIS did not fully analyze all potential impacts and risks to water quality in geological regions containing karst areas, especially where lime sinks have created areas of rapid internal drainage during heavy runoff.
- 11) there are no water quality standards for most herbicides planned to be used since EPA and individual states have failed to set any standards for them. USFS claims to meet the strictest drinking water standards set by EPA of .100 ppm for 2,4-D the only one they have information on. The rest are assumed safe if amounts don't exceed those for 2,4-D.
- 12) due to a lack of scientific data, VMDPIS does not adequately address the adverse impacts of burning herbicide treated vegetation. It says nothing of possible dioxins, difurans, chlorine gas, hydrochloric acid, cyanide, phosgene gas, or chlorine dioxide being contained in the smoke from prescribed burnings in these same areas. I recommend that there be no prescribed burnings in any stands treated in the past with 2,4-D which contained a small amount of TCDD, the deadliest form of dioxin and poison known to mankind. These dioxin breakdown products are extremely long lived and could be spread from the site in the smoke since they are not destroyed at low temperatures.
- 13) Quantitative risk analysis is a relatively new tool and does not have a proven track record for accuracy when predicting results. Such a risk analysis was used in California but failed to predict the effects of severe poisoning from eating watermelons sprayed with a pesticide at 1/5 the levels predicted to cause any effects.
- 14) worst case analyses are over conservative in their estimates for extreme spills. What if a helicopter crashed into a refill tanker? What if vehicle carrying herbicides crashed and spilled its entire contents? Spills onto workers this last April on the Buffalo District exceeded the project's worst case scenario thus proving that even the finest mitigation measures work best on paper.
- 15) LC50 and LD50 are inadequate alone to determine risk to humans and wildlife since they take into account only acute toxicity. Long-term, low level toxicity studies have not been done to predict the cumulative, synergistic long-term effects.
- 16) there are no studies of the synergistic and cumulative effects using full formulations of herbicides and their secret inert ingredients. This is a serious oversight since one of the inerts in 2,4-D was dioxin.
- 17) the "no observed effects levels" are too high, and are based on modeling and guesswork from rabbit and rat studies in order to estimate effects upon humans and are completely unverifiable.
- 18) the risk assessment does not consider whether some of the herbicides may be tumor promoters or enhancers, or initiators of cancer in combination with other compounds that could cause cancer.
- 19) neurological and immunological data is unavailable for all herbicides listed since EPA does not require these at the present. These impacts are not considered. Hexazinone applicators have frequently complained of headaches from breathing vapors all day, a situation which indicates a need for these studies.

10 Potential effects on groundwater are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.

11 Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:

(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.

12 While recognizing the commenter's concern about the possible effects of past practices with respect to current prescribed burning risk, we were unable to find data which supports the position offered. Available information, presented in appendix A, pages 5-31 and 5-32, shows margins of safety of 150 or greater when compared to toxicological reference standards. Please also review the general and prescribed fire reviews of quality presented on pages IV-116 through IV-124 of the Draft EIS. The EIS team will be glad to review any scientific information not previously reviewed.

13 Quantitative risk assessment has been in general use since the late 1970's. While not perfect, it has an excellent track record. The case referred to was one of an unpredicted synergism which was overlooked in the analysis. Reasonably foreseeable synergisms with potential to cause significant effects have been considered in this EIS (40 CFR 1502).

14 The Council on Environmental Quality Regulations, 40 CFR 1502.22 require that "reasonably foreseeable" significant adverse impacts be evaluated in order to make a reasoned choice among alternatives, management requirements, and mitigation measures in part E of chapter II constrain the magnitude of reasonably foreseeable accidents (see especially number 22 on page II-58 of the Draft EIS). We used water-based accident scenarios rather than terrestrial because the potential for significant environmental harm is higher. The terrestrial accidents you suggest are possible, but pose less environmental threat than the accidents we evaluated.

- 15 LD₅₀ and LC₅₀ are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.
- 16 Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.
- 17 NOEL's are evaluation of the highest dose of a chemical administered on a subchronic or chronic basis which causes no observable effect in test animals. It is scientific data not an arbitrary point. Thus, it is neither "...too high..." nor is it too low. The lowest MOEL among all tested species is taken to be an approximation of the human NOEL, and then a safety factor of 10 is used to make a more conservative (risk reducing) estimate. For further information see the discussion of Margin of Safety on pages 5-1 through 5-3 of the risk assessment (appendix A) and the discussion beginning with "Hazard Identification" on page IV-4 and ending with the discussion of "cancer potency" on page IV-8 of the Draft EIS.
- 18 Based on data presented in the Risk Assessment this concern was not felt to pose a reasonably foreseeable potential for causing significant effects. While continuing to monitor the scientific literature we have as yet no evidence to suggest that there is a legitimate concern in this area.
- 19 We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects. The definition of headache = neurotoxic effect is too narrow a focus of this symptom.

- 20) bioaccumulation of herbicides is insufficiently assessed since studies used to project long-term bioaccumulation were only 4 day elimination rate studies. Studies in Sweden have found herbicide residue levels up to 6 ppm in liver and kidney tissues of 250 different wildlife species. This indicates that herbicides are much more persistent in the food chain than previously believed, and it increases the possibility for bioaccumulation in humans who eat those species of wildlife.
- 21) of unmentioned possible adverse effects upon biodiversity on National Forest land since herbicides disrupt the natural ecological processes through reduction in biomass and composition, and abundance of ground cover to protect soil from erosion in recently cutover areas.
- 22) herbicide use does not contribute to the local economies as well as manual methods of vegetation management. Manual methods would result in the highest rate of employment in an area with one of the highest rates of unemployment in the south. This would mean increased local returns to the economies: over \$40 more per acre than with herbicide use.
- 23) large data gaps exist in research regarding the breakdown products and metabolites for full formulation of herbicides and their inert ingredients.
- 24) I am further opposed to use of any vegetation management methods on threatened, endangered or sensitive (TES) plant and wildlife habitat because, if left alone, these areas will have a more stable environment with fewer human disturbances and more natural disturbances taking over to which TES species are already adapted.
- 25) I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice on public lands.
- 26) WNDIS fails to consider a full range of alternatives as per NEPA when it did not include an integrated pest management alternative such as presented by Norma Greir in Region 6 emphasizing prevention for need of VM and allowing natural processes to work, employing least invasive and least toxic methods, and using follow-up monitoring and evaluation to help fill in data gaps. It failed to consider a full range of alternatives when it did not include an alternative with reduced number total acres other than alternative A. These total acres to be treated are tiered to LMRP's which are currently under appeal and revision concerning overreliance on even aged management techniques which necessarily involve more site prep and TSI work.
- Therefore I support, by reference, the NWA modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.
- >>> Finally, I do not believe the risks are acceptable for herbicide use and do not believe that public lands should be managed with them. Thank you for this opportunity to comment.
- I hunt, fish, and hike in Arkansas and (with the exception of quail hunting) always have a much more positive experience in mixed woodlands than in "pine plantations". My family owns 380 acres in Cleveland County, AR, it is managed by thinning and cutting as needed and provides a good money return as well as a fire place for most wildlife and human visitors. Please stop using any method to destroy*

- 20 The liver is the organ in the body which "detoxifies" blood. While reporting the presence of up to 6 ppm of herbicides in the liver, it was never made clear if this was transient removal of materials recently ingested/digested/circulated or if this was storage material. Since we have found no evidence of accumulation of these herbicides in our literature review, we find no evidence to support commenter's contention that presence in a filter (the liver) = storage and accumulation in that location.
- 21 See our response to comments in Letter No. 42, Comment No. 2.
- 22 See our response to comments in Letter No. 23, Comment No. 2 regarding employment. We did not disclose any data which would support increased returns of \$40 per acre for manual treatments. In fact, the limited data we supplied on pages IV-127 through IV-130 of the Draft EIS suggest a figure much lower than \$40. Additionally, if effectiveness of treatment is considered the comparison between manual and herbicide treatments becomes even closer. There is also the chance that labor may be provided by a contractor outside the community or even the State. Measuring the direct input to local economies is much more difficult than supposed in your comment. This effect is one which was determined to be outside the scope of this EIS.
- 23 We agree. See No. 7 on page IV-9 of the Draft EIS where we identify this as a data gap.
- 24 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.
- 25 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.
- 26 Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.
- Alternatives A and B reduce acreage and alternative H increases acreage from Forest Land and Resource Management Planning levels. Any revisions or changes in Plan direction can easily be incorporated into any preferred alternative and acreage can be adjusted if necessary. We evaluated programs as they existed at the time of our analysis, not as they might be following some uncertain length of time, but we retained flexibility to adjust. Discussions of even-aged management is beyond the scope of this EIS.

149

most breeding / hardwood trees, lets let nature decide what grows
where!

John Sanford

P.O. Box 5652

Hot Springs National Park, AR. 71902

10-17-89

Dear Sir,

1 Did like to voice my objection to the use of herbicides in the Ouchita and Ozark National Forests. Herbicides should not be used at this time because there is insufficient data available on the possible long term effects to wildlife, forest visitors, and the forest environment in general.

Thank you for considering my opinion

Deborah Jackson

1111 N. Jackson N.

Little Rock, AR 72205

Response to Comments in Letter No. 150

From: Deborah Jackson

Comment No.

Response

- 1 Your objection to the use of herbicides was included in content analysis of all comments received.
- 2 Appendix A contains a Risk Assessment which deals with insufficient data on herbicide effects on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22.

USDA Forest Service
1730 Peachtree Rd. N.W.
Atlanta, Ga 30367

Re: Vegetation Impact of The Ozark + Quachitas

Dear Forest Service:

- 1 I object to herbicides being used in the Ozark + Quachitas because we do not have complete data concerning:
 1. Long and short term effects on workers, public and non-target flora and fauna
 2. Cumulative & synergistic effect of herbicides.

It is vital that we maintain the natural beauty of our lands.

Yours very truly,
Jo Ann H. Hathorn

Response to Comments in Letter No. 151

From: JoAnn Hathorn

Comment No. Response

- 1 Your opposition to the use of herbicides was included in content analysis of all comments received.
- 2 Short- and long-term effects, cumulative effects, and synergistic effects are discussed in appendices A and C as well as in chapter IV. Appendix A contains a Risk Assessment which deals with incomplete data in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Chapter II contains mitigation measures which reduce or eliminate many of these effects as well as those to non-targets.

Dear Sirs, 10/16/89

as a concerned citizen (and weekend naturalist) I am aware of the continuing use of herbicides, by the USFS, for vegetation management, in our rapidly vanishing forest land. I am strongly opposed to its future use with its current methodology.

Herbicide use on public land not only exposes its residents and visitors to "known dangers" but extremely dangerous "unknown dangers." While USFS utilizes herbicides with "use at your own risk" labels,

unregulated mass burnings result in side reactions creating such toxic compounds as dioxins, dibenzofurans, polychlorinated biphenyls, etc. (to say the least). These chemicals effect not only the immediate area, but distant areas as they become "air born." In addition, not only are their short-term effects poorly understood, their long-term effects have not been addressed.

Response to Comments in Letter No. 152

From: Paula Beth Walker

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received.
An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.
- 3 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

From an ecological and political point of view, I understand the necessity of some reforestation by WFS; however, moderation and a careful eye are a must to order to save our forest, ecologist and politicians must work together for a safe and sensible compromise as a biochemist working in a state institution, I am alarmingly aware of the underestimated dangers of today's chemical availability; As well, I am cognizant of the tremendous amount of red tape that must be tackled to "get the job done"; however - it is possible!

In conclusion, I support the NCSWA modified Alternative D with reduced total acres of vegetation management and low intensity manual fire methods with integrated pest management leaning towards Alternative A, no action.

Thank you for your time, and please, save our forest, our wildlife and our health.

Spencer Wood

4 Your preference for alternative A has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

USDA Forest Service
 1720 Peachtree Rd N.W.
 Atlanta, GA 30367

RE: Vegetation Management
 Ozark Ouachita

Dear USDA Forest Service,
 I don't want herbicides used in Ozark
 Ouachita National Forest because of
 incomplete & unavailable data. Herbicides
 kill ~~potential~~ potential habitats of many species.
 Please use alternative D.
 Thank you.

Donna Skowronski
 11780 Rivercrest Dr.
 Little Rock, AR 72212

Response to Comments in Letter No. 153

From: Donna Skowronski

Comment No. Response

- 1 Appendix A contains a Risk Assessment which deals with incomplete and unavailable data on herbicide effects on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22.
- 2 Potential effects of herbicides on wildlife habitats are discussed on pages IV-71 through IV-75 of the Draft EIS. These effects are summarized in table II-7 on pages II-68 and II-69 of the Draft EIS.
- 3 Your preference for alternative D was included in content analysis of all comments received.

USDA Forest Service
1720 Peachtree Rd NW
Atlanta, GA 30367

10-17-89

Dear Sir or Madam:

I am interested in keeping herbicides out of the Ogburn and Ouelata National Forests for vegetation management

I believe there is incomplete data on the use of these herbicides and there could be potential health hazards to myself and future generations.

In addition we have no idea what the long and short term effects to non-target plants and animals.

Please consider the use of no herbicides in the management of the forest

Sincerely,

Mary P Kelly
7414 Measmore Ave
Little Rock, AR 72207

Response to Comments in Letter No. 154

From: Mary P. Kelly

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in content analysis of all comments received.
- 2 Appendix A contains a Risk Assessment which deals with incomplete data on herbicide effects on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Potential effects on non-target plants and animals are discussed in parts C and D of chapter IV. The mitigation measures in chapter II reduce or eliminate many of these possible effects.

Oct. 17, 1989

U.S. FOREST SERVICE
1720 Peachtree St. N.W.
Atlanta, GA, 30367

DEAR SIR:

- 1 PLEASE CONSIDER DROPPING THE USE OF HERBICIDES IN ALL FORESTS IN ARKANSAS, ESPECIALLY THE Ouachita N.F. THE IMPACT OF HERBICIDE USE
- 2 IN CONJUNCTION WITH CLEAR CUTTING IS RUINING A BEAUTIFUL STATE. STREAM POLLUTION IS EVIDENT AS ONE OF MY FAVORITE DIVING SPOTS IS NOW CLOUDED BY SILT (AND RELEGAS CHEMICALS) FROM A CLEAR CUT NEAR BY.

- 4 PLEASE USE THE PROPOSAL D, AS SUGGESTED FOR THIS COMMENT PERIOD, AS A MODEL FOR FUTURE USE OF HERBICIDES. PLEASE NOTE ALSO THIS IS A HANDWRITTEN NOTE, BY A LOCAL RESIDENT AND USER, AND NOT A PRE-PRINTED FORM SUPPLIED BY A MEGA BUCK PAPER COMPANY FROM OUT OF STATE!

THANKS FOR YOUR TIME

S. HEYE
BIG LAVER
LITTLE ROCK, ACK 72209

Response to Comments in Letter No. 155

From: S. Heye

Comment No.	Response
1	Your preference for alternative D which uses no herbicides was included in content analysis of all comments received.
2	The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each national forest. Page II-12 of the Draft EIS contains a table for alternative F which shows 13 program areas where herbicides may be used for vegetation management, indicating that herbicides are not used solely in clearcuts.
3	Potential effects from herbicides on water are discussed in appendix C as well as in part G of chapter IV.
4	Responses about the EIS originate from a variety of sources. Each source represents someone who has an interest in some facet of national forest management. No comments are excluded from our analysis due to their form or affiliation with a specific interest.

Green Bay Packaging



Inc.

• SOUTHERN WOODLANDS DIVISION

P. O. BOX 711
MORRILTON, ARKANSAS 72110
(501) 354-2461

October 17, 1989

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. Alcock:

I support the Alternative H of the Draft EIS - Vegetation Management proposal for the Ozark/Ouachita Mountains because:

- (1) It will maximize pine timber production more than any other alternative.
- (2) It will be more long-term, cost effective because there is less manual treatment and more herbicide use.
- (3) It is the alternative that best supports Plan "P" of the Ouachita Management alternative of my choice.

Thanks for considering my input.

Very truly yours,

E. G. Pearce, Jr.,
General Manager
Southern Woodlands Division
Green Bay Packaging Inc.

EGP:jr/ns

Response to Comments in Letter No. 156

From: E. G. Pearce, Green Bay Packaging Inc.

Comment No.	Response
1	Your preference for alternative H has been included in the content analysis of all comments received.

U.S.D. A. Forest Service
1720 Peachtree Rd. NW
Atlanta, GA. 30367

10/17/89

Dear Forest Service Staff:

I oppose the use of any herbicides in the Ozark or Ouachita National Forests.

- 1 These substances contain toxins whose long term chronic effects on animals and people are uncertain but very possibly deleterious to health. Furthermore, creation of "pine tree forests" is detrimental to biodiversity in our forests - we need to promote biodiversity rather than discourage it.
- 2 I favor alternative O. N. Forest grass destruction due to mechanical site preparation.

Sincerely,
James Frost
Rt. 1, Box 1440
Roland, AR 72135

Response to Comments in Letter No. 157

From: James Frost

Comment No.

Response

- 1 Appendix A contains a Risk Assessment which deals with uncertainty about possible long-term chronic effects of herbicides on animals and people in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22.
- 2 Page II-12 of the Draft EIS displays a table for alternative F which has 13 program areas which may utilize herbicides for vegetation management. While the bulk of herbicide treatments are for site preparation and timber stand improvement, no information is presented that suggests these are entirely pine plantations. Information regarding species being managed is found in Forest Land and Resource Management Plans.
- 3 Your preference for alternative D which uses no herbicides was included in content analysis of all comments received.

Draft Env. Impact STATEMENT
 RE. Vegetation Management
 in The Ozark/Osage

1 I do not think that herbicides should be used in any Public land.

2 no one knows the true long term effects on water, plants, animals and humans.

The Federal Government should set an example and not use any chemicals.

Thank You
 Thomas D. McDonald
 6316 Blackhawk Dr
 North Little Rock, Arkansas
 72116

Response to Comments in Letter No. 158

From: Thomas D. McDonald

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in content analysis of all comments received.
- 2 Appendix A contains a Risk Assessment which deals with possible long-term effects on animals and humans in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Appendix C contains a detailed analysis of potential herbicide effects on water. Further discussions of these effects as well as possible effects on plants are found in Chapter IV.

Oct. 17, 1987

USDA Forest Service
1720 Peachtree Rd NW
Atlanta, Georgia 30367

Re: Ouachita/Ozark National Forest Draft
Governmental Impact Statement on Vegetative Management.

Dear Sir,

I am opposed to herbicide use in the Ouachita and Ozark National Forests. We have incomplete data concerning 1) the long-term effects on workers, the public, and non-target plants and fauna and 2) the cumulative and synergistic effects of herbicides.

Thank you for your attention to keeping herbicide out of the Ozark and Ouachita National Forests.

Sincerely,

John G. M.
320 N. P. Ave
Little Rock, Arkansas 72205

Response to Comments in Letter No. 152

From: E. Ellis

Comment No.

Response

- 1 Appendix A contains a Risk Assessment which deals with incomplete data on herbicide effects including long- and short-term, cumulative, and synergistic effects. Additional discussion of these effects as well as possible effects on non-targets is found in chapter IV. The mitigation measures in chapter II minimize or eliminate many of these possible effects.
- 2 Your opposition to herbicide use was included in content analysis of all comments received.

Oct. 17, 1989

To Whom It May Concern:

1 I am writing to oppose the use of herbicides in all National Forests particularly the Ozark and Ouachita National Forests of Arkansas. I feel we are just becoming aware of the toxic effects of using poisons in our environment and certainly our forests should be kept clean and free of toxins. The long term effects of this particular type of vegetation management is incomplete if not un- available but is unacceptable for the animals, streams & rivers and public who inhabit the woods.

2 I hope that Alternative D will be considered with the modification that mechanical site preparation be eliminated.

3 Thank you for your consideration.

Jan Ralyohn
320 S. Johnson
S.R. Co. 72205

Response to Comments in Letter No. 160

From: Joan Ralyohn

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.
- 3 Your preference for a modified alternative D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

VMDEIS COMMENTS
 USDA FOREST SERVICE

To whom it may concern,
 I am strongly opposed to the proposed management plan for the Ozark/Ouachita National Forest in Arkansas. The American public is being robbed. Our forests are being destroyed for the benefit of the timber interests and a few people who depend on timber to make a living. Everyone seems so concerned over the destruction of the Amazon rain forests, yet we seem to be turning our backs on our own forests. Our forests were protected for the multi-purpose use by the public. Timber production is one of those uses, but it should not overwhelm the other uses. Only uneven age diverse forests should be maintained. The use of herbicides to create monoculture pine plantations destroys the diversity of the forest. Many species require a wide variety of food and will disappear in time. Herbicides can get into water supplies and can have harmful effects on human as well as animal life. Please stop the exploitation of the American public by special interests. STOP THE DESTRUCTION!

Harold D. Joe, Jr.

Response to Comments in Letter No. 161

From: Harold D. Love, Jr.

Comment No.

Response

- 1 Multiple use management practices are beyond the scope of this EIS. Concepts of multiple use and sustained yield are dealt with in the Forest Land and Resource Management Plans of each national forest.

Jimmie Adams
 1908 Green Ave
 Jacksonville, Ark 72076

U.S.D.A. Forest Service
 1720 Peachtree Rd. N.W.
 Atlanta, Ga 30367

Oct-13 1984

Re: En. Impact Statement
 re: Vegetation Management
 in the Ozark/Ouachita

1. Don't want herbicide used in the Ozark/Ouachita because of incomplete & unreliable data concerning:
 2. Long & short term effect on wildlife, Rubus, non target flower fauna.
 3. Clear cutting will obstruct from the beauty of the forest.
 4. In favor of alternative Plan D.

Sincerely,
 Jimmie Adams

Response to Comments in Letter No. 162

From: Jimmie Adams

Comment No.

Response

- 1 Appendix A contains a Risk Assessment which deals with short- and long-term herbicide effects and incomplete and unavailable data in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Chapter IV also discusses these effects and evaluates possible effects on non-targets. Mitigation measures in chapter II minimize or eliminate many potential effects on non-targets.
- 2 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each national forest.
- 3 Your preference for alternative D which uses no herbicides was included in content analysis of all comments received.

October 17, 1989

U.S.D.A. Forest Service
1720 PEACHTREE RD, N.W.
ATLANTA, GA 30367

RE: VEGETATION MANAGEMENT IN OZARK/OUACHITA N.F.

DEAR SIR OR MADAM:

- 1 Given the incomplete data, and gaps in the research information used, I do not believe that herbicide use in the National Forest poses an acceptable risk to me or the rest of the public.
- 2 I support modified Alternative D with Reduced acreage of management.

Very truly yours,

Amy Hamby

AMY HAMBY
7909 WOODHAVEN DR.
LITTLE ROCK, AR 72209

Response to Comments in Letter No. 163

From: Amy Hamby

Comment No.

Response

- 1 Appendix A contains a Risk Assessment which deals with incomplete data and data gaps on herbicide effects in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22.
- 2 Your preference for alternative D which uses no herbicides was included in content analysis of all comments received. One of the possible outcomes of treating reduced acreages is an inability to meet the output objectives of Forest Land and Resource Management Plans. Alternatives A and B display this and other effects.

Jane Parsons
12701 Natural Stepash.
Roland, AR 72135

Oct. 17, 1969

USDA Forest Service
1920 Peachtree Rd. N.W.
Atlanta, GA 30367

RE: Draft Environmental Impact Statement -
Vegetation Management in Ozark/Ozark N.F.

I am a landowner in Ozark N.F. and
am also a trained biologist with a Master's Degree.

I oppose the use of herbicides in our
Natural Forests for the following reasons:

1. They are used in association with clearcuts
2. " " " to kill hardwoods to convert
to a pine forest and decrease biological
diversity
3. They harm all flora and possibly animal life
when sprayed.
4. The short term effects and long term effects
on human and other ~~plant~~ plant & animal life
are unknown.

I favor alternative "D" in the Draft Statement

Jane B. Parsons

Response to Comments in Letter No. 164

From: Jane Parsons

Comment No.

Response

- 1 Your preference for alternative D which uses no herbicides was included in content analysis of all comments received.
- 2 Harvest and/or silvicultural systems are beyond the scope of the vegetation management EIS, but are addressed in Forest Land and Resource Management Plans. Page II-12 of the Draft EIS displays a table of 13 program areas where herbicides may be used for vegetation management for the Draft preferred alternative F.
- 3 Site conversion is discussed in Forest Land and Resource Management Plans. Discussions of effects on species composition/diversity are found in sections C and D of chapter IV. Table II-7 on pages II-68 and II-69 of the Draft EIS also summarizes some of these effects.
- 4 Potential short- and long-term herbicide effects on humans and animals are discussed in appendix A (the Risk Assessment) and in chapter IV.

Oct. 89

1 USDA Spot Survey.

2 I would like to express my objection to the use of herbicides in the Oak-Quercus management area. I understand data is incomplete concerning the long term effect on people, flora, and fauna.

Dorothy Meyer
P.O. Box 5004
Little Rock, Ark. 72225

Response to Comments in Letter No. 165

From: Dorothy Meyer

Comment No.

Response

- 1 Your objection to use of herbicides was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced ■■ we require.
- 2 Appendix A contains a Risk Assessment which deals with incomplete data on herbicide effects in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22.
While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

14 Painted Turtle
Little Rock, AR

72211

October 17, 1989

Dear Sir:

I am writing to express my concern about the use of herbicides in the Ouachita National Forest. Herbicides used for the maintenance of pine plantations damage the environment especially when they get into the water. Since national forests are public lands, they should be managed for multiple use. I urge you to adopt Alternative D with the modification that extensive mechanical site preparation be eliminated. Thank you for your consideration.

Sincerely,

Margaret Bartelt

Response to Comments in Letter No. 166

From: Margaret Bartelt

Comment No.	Response
1	Page II-12 of the Draft EIS displays a table for alternative F which has 13 program areas which may utilize herbicides for vegetation management. While the bulk of herbicide treatments are for site preparation and timber stand improvement, no information is presented that suggests these are entirely pine plantations. Information regarding species being managed is found in Forest Land and Resource Management Plans.
2	Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
3	Your preference for alternative D which uses no herbicides was included in content analysis of all comments received. Mechanical site preparation in alternative D becomes necessary due to the lack of herbicides as a possible method. Compare alternative C on page II-6 of the Draft EIS with alternative D on page II-8.

Oct. 18, 1987
David W. Mild
P.O. Box 55125
Limb Rock, Ar.
72225

Re: \circ Vegetation Management Draft E.I.S.

U.S. Forest Service
1720 Peachtree R.I. N.W.
Atlanta, Ga. 30367

Gentlemen and/or Ladies,

I am writing you concerning the use of
Herbicides in the Ozark/Ozarkian National Forest in
the Draft Vegetation Management Plan.

I am opposed to Herbicide use because
of unknown and/or unavailable and incomplete information:
1. The long and short term effects of the herbicides
we apply these herbicides including more mobility studies
on long term effects.

2. I am concerned with carry over of herbicides to
the water that my end up on local crops.

3. The possible chemical combinations of other herbicides
and chemicals that have been or may be used separately
applications.

Response to Comments in Letter No. 167

From: David W. Mild

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced ■■ we require.
- 2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, ■■ granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 3 Toxic effects on wildlife, ■■ well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

- ③ Has the migration of Breeding Anbystrand Salamanders been studied in relation to herbicide use? What happens if their migration causes a sprayed endangered plant? Salamanders and other amphibians (also mollusks, worms, etc, etc) readily absorb chemicals through their skin. What about water quality from runoff into their temporary breeding ponds?
- ④ I'm concerned with the use of ~~pest~~ use of herbicide instead of ^{local} labor in an area of seasonal help availability and high unemployment.
- 5 I believe a few streambeds and brook toes are preferable to an entire population with cancer or Environmental Illness, a loss of quality of life instead of death - a hard statistic to measure but it is there or will be there if this type of side pollution is allowed.

Thank you for
considering my comment.

Respectfully,

David W. [Signature]

4 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

5 The risk-of-accident statistics presented in the Draft EIS are based on our current program which includes extensive safety training. Because of the hazards and exposure of vegetation management work, which has been following rigid safety standards for many years, we foresee no significant improvement in these statistics despite continued safety training. Nowhere do we conclude that the listed chemicals are human mutagens; we analyze the data if this potential exists where questions have arisen in testing. The same comment applies to carcinogenicity; analyses of several products were done as if they were carcinogenic. Unknowns were modeled, and management conclusions were drawn from the analysis.

Gordon Bartelt
 14 Painted Turtle Cove
 Little Rock, AR 72211
 17 Oct 89

USDA Forest Service
 1720 Rocktree Rd. NW
 Atlanta, GA 30367

Dear Sirs:

- I am not in favor of your use of herbicides in the Ozark & Ouachita National Forests. I care a mile in these areas and don't like the idea of coming in contact with these chemicals. I also don't think it is necessary to use them. If hardwoods want to grow in an area instead of pine, let them grow. Work on developing more ~~hardwoods~~ for ~~hardwoods~~ hardwoods & less for pine. Thanks for your consideration

Gordon Bartelt

P.S. I support alternative "D".

Response to Comments in Letter No. 168

From: Gordon Bartelt

Comment No.

Response

- 1 Your preference for alternative D which uses no herbicides was included in content analysis of all comments received. Potential public risk is displayed in chart or table form on page IV-25 (table IV-1) of the Draft EIS. In every case, public margins of safety exceed 1,000, or 10 times the acceptable standard.
- 2 Forest Land and Resource Management Plans dealt with the issue of suitability of sites to produce different tree species. This issue is not within the scope of the vegetation management EIS.

4710 Sam Peck Rd, #2010
Little Rock, AR 72212

Oct. 17, 1989

Dear Sirs,

Because of the unknown or unavailable data on
1 the acute and chronic toxic effects on humans -
either as airborne contaminants or as non-point source
run-off - I oppose the use of herbicides to control
vegetation in the Ouachita or Ozark National Forests.

2 The preferred alternative is Alternative D, which
should be modified to eliminate extensive mechanical
site preparation.

Thank you for your consideration.

Sincerely,

Rebecca Eggert

Response to Comments in Letter No. 169

From: Rebecca Eggert

Comment No.

Response

1 Appendix A contains a Risk Assessment which deals with unknown and unavailable data on herbicide effects in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Your preference for alternative D which does not use herbicides was included in content analysis of all comments received. Mechanical site preparation in alternative D becomes necessary due to the lack of herbicides as a possible method. Compare alternative C on page II-6 of the Draft EIS with alternative D on page II-8.

To: USDA Forest Service

Re: Draft Environmental Impact Study
on Ogish & Brachita NF - Ark/Ohla
Vegetation management

Is USDA Forest Service Chemically
dependent? Can the woods be
drug free? Keep herbicides out
of our National Forest - The impact
on wildlife, ground water &
a clear danger - STOP The
Use of Chemically Plean
- at least

Use alternative D
Ray Hanley
7413 Henderson Rd
LR, Ark 72210

Response to Comments in Letter No. 170

From: Ray Hanley

Comment No.

Response

1 Your preference for alternative D which does not use herbicides was included in content analysis of all comments received. Possible herbicide impacts on wildlife are discussed in appendix A, sections 6, 7, and 8 and in chapter IV. Herbicide effects on water are discussed in appendix C and in chapter IV.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

Dear Sirs:

I don't want herbicides used in Olympic and Grand National Forests because of incomplete and unavailable data concerning:

- ① Long & short term effects on workers, public, non target flora and fauna.
- ② Cumulative & synergist effect of it.

Yours truly,

Mina Goldman

715 N. Cedar Apt 2A
Little Rock, AR 72205

Response to Comments in Letter No. 171

From: Mina Goldman

Comment No.	Response
1	Your opposition to the use of herbicides was included in content analysis of all comments received.
2	Short- and long-term effects, cumulative effects, and synergistic effects are discussed in appendices A and C as well as in chapter IV. Appendix A contains a Risk Assessment which deals with incomplete data in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Chapter II contains mitigation measures which reduce or eliminate many of these effects as well as those to non-targets.

Draft En Impact Statement

RE: Vegetation Management in the Clark/Quadrangle

1 *I don't want herbicides used in the Forest, it kills the Wild Animals & Birds. We need to preserve our wilderness, it is important for the children coming after us.*

Thank you

*Helga Halloran
Little Rock, Arkansas*

Response to Comments in Letter No. 172

From: Helga Halloran

Comment No.	Response
1	Your opposition to herbicide use was included in content analysis of all comments received. Potential effects on wild animals and birds are discussed in sections 6, 7, and 8 of appendix A as well as in parts D and E of chapter IV. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

Oct. 17, 1989

USDA Forest Service
1720 Peachtree Rd NW
Atlanta, Ga. 30367

Draft Impact Statement
Re: Vegetation Management in
Ogark/Ouchita

Dear Sirs:

I strongly object to the use of herbicides listed in the Ogark/Ouchita vegetation forests/parks for several reasons.

1) Future impact on flora and fauna is uncertain and incomplete.

2) Long and short term effects on humans, both workers and the visiting general public, and non-target flora and fauna are unknown.

3) I am very concerned about the cumulative and synergistic effects of herbicides.

I support Alternative D with modifications to eliminate the extensive mechanical site preparation.

Thank you for your consideration.
Carole Swenson

Response to Comments in Letter No. 173

From: Carole Swenson

Comment No.

Response

- | | |
|---|--|
| 1 | Your opposition to the use of herbicides was included in content analysis of all comments received. |
| 2 | Short- and long-term effects, cumulative effects, and synergistic effects are discussed in appendices A and C as well as in chapter IV. Appendix A contains a Risk Assessment which deals with incomplete data in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Chapter II contains mitigation measures which reduce or eliminate many of these effects as well as those to non-targets. |

10-17-89

USDA Forest Service
1720 Peachtree Blvd NW
Atlanta GA 30367
Re: Draft Environmental Impact Statement
Vegetation Mgmt, Ozark/Ozark National Forest

1 I oppose use of herbicide in the National Forest (Ozark/Ozark). I don't believe there is sufficient data regarding long term effects of herbicides to justify such widespread use.

2 We stand to lose too much in the way of flora & fauna residing in the forest, not to mention potential health hazards to humans in the vicinity of the poisoning.

Sincerely,
Vickie H. Dorey
32 Koko
NLR AR 72120

Response to Comments in Letter No. 174

From: Vickie H. Dorey

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Short- and long-term effects from herbicides are discussed in appendices A and C as well as in chapter IV. Appendix A contains a Risk Assessment which deals with insufficient data in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

10-17-88

Dear Sir,

As a private citizen who enjoys the National Forest for recreation,

I am opposed to the use of herbicides in the national forest.

Until there is positive information that this is not harmful to the general population, the practice must be halted.

Thank you for your consideration on this issue.

Sincerely,
Yvonne Thompson

1

Response to Comments in Letter No. 175

From: Yvonne Thompson

Comment No.

Response

1 Your opposition to herbicide use was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

43 Colony Rd.
 Le High Rock, Ark 72000
 October 18, 1989

USDA Forest Service
 1720 Peachtree Rd. NW
 Atlanta, GA 30367

Re: Vegetation Management in the
 Ozark & Ouachita

I am opposed to the use of
 herbicides in the Ozark &
 Ouachita Management Areas.
 I feel that their use poses
 an unacceptable risk to
 both people & the environment.
 I support Alternative D
 but that it should be modified
 to eliminate extensive mechanical
 site preparation.

Thank you for considering
 my comment.

Sincerely,
 Donna Davis

Response to Comments in Letter No. 176

From: Donna Davis

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Your preference for alternative D was included in content analysis of all comments received. Mechanical site preparation in alternative D becomes necessary due to the lack of herbicides as a possible method. Compare alternative C on page II-6 of the Draft EIS with alternative D on page II-8.

USDA Forest Service,

1 Please Stop the use of herbicides in the
Cuechita & Ozack Park forests. The reason is because
of incomplete & unreliable information concerning
the long & short term effects on forest workers
& the public using the forest and on targeted flora
& fauna.

As a user of the forests I enjoy the hardwood
forest just as much as the pine. To make the
hardwood die out makes for a very boring
uniform un-natural place. It is also bound to
have effects on the bird & animals of the
forest. We need to stop poisoning everything
around us.

2 Please consider other alternatives.

Carol A Nelson

Response to Comments in Letter No. 177

From: Carol A. Nelson

Comment No.

Response

1 In this document we have complied with the Council on Environmental Quality (CEQ) regulations on incomplete and unavailable information, which require analysis of "... reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) to comply with CEQ's requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are essentially worst case analyses that exceed CEQ requirements.

The Risk Assessment used a modeling approach to estimate the potential of each herbicide, additive, and inert ingredient to cause toxic effects, cancer, mutations, and birth defects under a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). It also evaluates bioaccumulation and synergism of the chemicals. Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures. The effects of those exposures are evaluated based on toxicity data for each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community.

The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 633, and it was subjected to rigorous scientific review. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were consistently made to deliberately overestimate potential health risks to people and wildlife.

Evaluating wildlife and aquatic species risk using LD50 and LC50 data is the method described by EPA in the EPA Office of Pesticide Programs' document "Hazard Evaluation Division--Standard Evaluation Procedure: Ecological Risk Assessment." For the EIS we have accepted and utilized this procedure. Additionally, the herbicides do not bioaccumulate (page 8-2 of appendix A), so cumulative effects are only likely where multiple exposures are received in a short period of time. We agree that acute toxicity is a poor indicator of possible long-term health and reproductive risks to wildlife. Where available chronic and subchronic toxicity tests are reported. Gaps in the data are acknowledged and modeling of surrogate species is used to estimate potential long-term effects.

2 The Draft EIS displays eight alternatives which use varying levels of herbicide treatments. Alternatives A and D use no herbicides and alternatives B and F treat fewer acres than currently.

I wish to express my concern over using herbicides in National Forest, as it affects so many different areas of Coconino animals, land as well as trees. We are so fortunate to have a beautiful area, why ruin it when there are other ways to control the area -

Carolyn McAllister
Ark. (SP) Sierra Club

Response to Comments in Letter No. 178

From: Carolyn McAllister

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received. The Draft EIS displays eight alternatives which use varying levels of herbicide treatments. Alternatives A and D use no herbicides and alternatives B and F treat fewer than currently. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

Dear Sir:

This is to express my concern regarding the use of herbicides in the forestry service.

- 1 I do not like the use of herbicides because of the following:
- 2 1) incomplete information regarding long & short-term effects on workers, public users, & non-target flora & fauna.
- 2) incomplete information regarding cumulative effects of herbicides.

Atrazine is used in a large part for public use, and this is a large concern to all of us who hike, camp, and canoe in our national forests.

Thank you,
Julianne King-Otto

Response to Comments in Letter No. 179

From: Julianne King-Otto

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in content analysis of all comments received.
- 2 Short- and long-term effects, cumulative effects, and synergistic effects are discussed in appendices A and C as well as in chapter IV. Appendix A contains a Risk Assessment which deals with incomplete data in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Chapter II contains mitigation measures which reduce or eliminate many of these effects as well as those to non-targets.

180

181-184; 191-199; 212-233; 246-249; 257;
293-298; 321-326; 328-332; 334-335; 462-463;
627-628; 657

The above letter numbers are all of the same content and a copy of the letter is reproduced below. These numbers also appear next to the names of persons who sent them in chapter VI (Volume III). Some of them did not have an address. Therefore, we were unable to add them to our mailing list to receive an EIS.

October 17, 1989

Date

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. Alcock:

I support the Forest Service's objectives to promote the long-term health and productivity of the National Forests.

I support Alternative H of the Draft EIS - Vegetation Management proposal for the Ozark/Ouachita Mountains. I do this because I think it provides the methods and tools to meet site specific needs. It provides for more long-term cost effective methods. It also will provide for a more productive forest for timber products as well as meeting other uses and needs for the public.

Thank you for the opportunity to respond to this proposed plan.

Bob Humphreys
Name

110 Cedar Creek
Address
Morilton, Ar 72110

Response to Comments in Letter No. 180

From: Form Letter

Comment No.

Response

1 Your preference for alternative H has been included in the content analysis of all comments received.

Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. The preferred alternative (F) represents a set of methods and tools which allow us to accomplish goals and objectives of Forest Plans while at the same time considering the results of our analysis and the full range of public comment. Flexibility has been retained by our provisions for incorporating new data whenever it becomes available.

10-19-81

12515 C. 37
Tuba, N. 7416

Steve McBrquodale,
VPI DCD Comments
Forest Service
Atlanta, Georgia

Dear Mr McBrquodale,

For vegetation management on the Ojash/
Quashita Mountains, I support alternative
"D" with modifications as follows:

- ① Reduced amount of acreage
- ② Low intensity mechanical and fire
- ③ Emphasize primarily use of manual methods
- ④ Combine all of the above with an integrated pest management system.

Furthermore, herbicides should not be used anywhere on the Forests. The same results can be obtained by manual methods at a lower cost while providing employment opportunities.

In addition, I feel herbicide use can be viewed as discriminatory towards racial minorities due to the decrease of entry-level jobs available when herbicides are used for vegetation management. The U.S. Forest Service should try to increase employment opportunities when possible through its management practices

Sincerely,
David Thompson

Response to Comments in Letter No. 185

From: David Thompson

Comment No.

Response

- 1 Your preference for alternative Modified D has been included in the content analysis of all comments received.
In the Final EIS, we have strengthened and expanded several mitigation measures for all methods to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.
- 2 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

October 17, 1989

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Road, N. W.
Atlanta, GA 30367

Dear Mr. Alcock:

Thank you for allowing me this opportunity to comment on the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains.

I believe any alternative should allow for the amount of aerial spraying the local District Supervisor prescribes for their individual District as long as this prescription falls within guidelines of distance from susceptible crops, private land, streams, etc. Of course, this would also have to meet any budgetary constraints. I don't believe the Forest Service can pick a number to represent the annual need of every District.

It is my opinion that aerial spray is one of the safest vegetation management tools available. I hate to see the Forest Service give up on this safe and effective treatment method because of public pressure and misunderstanding.

All EPA approved forestry herbicides should be certified for use on the Ozark and Ouachita Forests. Restricting the herbicides to such a limited number seems to be too restrictive on the individual prescribing for the optimum treatment. This restriction also does not allow for use of newly developed and effective herbicides.

The trend toward more manual treatment is also disturbing to me. The DEIS only shows the cost of first time treatment but does not account for the ineffectiveness of this treatment.

It appears that with each draft of the Land and Resource Management Plan the Forest Service moves further away from meeting the RPA goals of timber production and more toward locking up

Response to Comments in Letter No. 186

From: Don Dale

Comment No. Response

1 Thank you for your favorable comment on aerial application. Analysis of the scientific record is consistent with your preference related to human exposure. However, there are also negative aspects when areas being treated contain non-target plant species. Please note that the EIS does allow review of and, if environmentally sound, programmatic use of newly developed chemicals (pages II-26-27, Draft EIS).

2 The problem of not evaluating either necessity for or cost of retreatment is recognized in the Draft EIS. Additional information about this problem has been included in the Final EIS.

Mr. John E. Alcock
October 17, 1989
Page two

areas by classifying as not being suitable for timber production. With this shift, I believe the Forest Service should intensify management on all areas classified as suitable for timber management.

Again, thank you for allowing me to comment on this Vegetation Management Plan for the Ozark/Ouachita Mountains.

Sincerely,



Don Dale

DD/vc

10-18-89

Dear Sirs -

I'm writing you about the possible use of herbicides to keep the underbrush and vegetation down in the Ozark/Ouachita National Forest. Has a Vietnam Veteran I am well aware of the consequences of using herbicides without scientific study of the resulting ~~to~~ physical problems caused by this spraying.

There is currently no evidence indicating that this type of vegetation control is safe for the animals & humans that use the forest to live & recreate.

I wish to protest the use of these herbicides in our national forests -

Sincerely -
Dennis Crigger
320 So. Johnson St
Little Rock, AR. 72205

Response to Comments in Letter No. 187

From: Dennis Crigger

Comment No.

Response

1 In this document we have complied with the Council on Environmental Quality regulations on incomplete and unavailable information (1502.22). There have been recent changes about how to evaluate incomplete or unavailable data. The Council on Environmental Quality issued regulations in November 1978 (40 CFR 1502.22) which required that a worst case analysis be performed to estimate risk of relevant missing information. In 1986, they modified this provision to require analysis of "... reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) using the 1986 requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are similar to the worst case analyses required under the earlier regulations. Thus, we have attempted to address both sets of regulations in our analysis.

Use of risk assessments is scientifically accepted, and ours has undergone extensive scientific review (Draft EIS, pages VI-3-4 and V-7-8). Modeling is used in the Risk Assessment to project incomplete or unavailable data. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, we have actually magnified the estimate of risk far beyond what is probable in the field. Where meaningful comparisons could be made between available data, quantitative analysis was done. Where necessary, analogy was used to develop these estimates. Otherwise, qualitative estimates were made. The Risk Assessment looks at a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures under each alternative. The effects of those exposures are evaluated based on what is known about the toxicity of each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community. The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 633. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were made. Acute toxicity testing on the full formulations is part of the available data on each herbicide. The chronic toxicity of the inert ingredients in each formulation is evaluated for those inert ingredients considered by EPA to pose a risk of health effects (Lists 1 or 2).

2 Your opposition to herbicide use was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

M. W. STANNARD
7702 CARLIN DRIVE #176
DALLAS, TX 75209

18th October, 1989

US Forest Service,
1720 Peachtree Road N.W.
Atlanta
GA 30367

Dear Sir,

Re: U.S.F.S. Vegetation Management Draft Environmental
Impact Statement

I understand that comments on the above DEIS are
invited.

I have serious reservations about the wholesale use of
herbicides on public lands. I note that extensive data gaps in
human risk and wildlife risk assessment are referred to in volume I
pp IV-829, IV 66-67. Given these data gaps how can assumptions
about acceptable risk be valid? Once ground water contamination
has occurred is it known, in the areas of proposed use, how long
it would take to purge underground water supplies of the
chemical?

I note that the chemical companies label their products
"use at your own risk". This seems a curious instruction for
chemicals to be used over thousands of acres of public land.

I note that both the EPA and individual states have
declined to set any water quality standards for the herbicides the

Response to Comments in Letter No. 188

From: M. W. Stannard

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 3 Potential effects on ground water are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.

use of which you plan. This implies a considerable uncertainty as to long term toxicity of herbicides used singly or in some possibly synergistic combination which may or may not have further effects by virtue of secret "inert" ingredients marketed with the herbicides. I believe, for instance, that one of the "inerts" in 2,4-D was dioxin.

It seems to me that, as with drugs, it is up to the manufacturers and users to prove the safety of a product before it is released for widespread use. It is not adequate, on the basis of insufficient data, to say "we know of no ill effects" and to pour tons of complex chemicals on national forests.

I am very much in favor of the NCVS notified alternative D with limited total acreage of vegetation management with the use of mechanical and fire methods. Alternative A, in my view, would be even better.

Yours sincerely,

Michael W. Stannard MD

4 Dioxin occurred in 2,4-D until the early 1980's. No recent dioxin contamination has been reported. Further, 2,4-D is not approved for use in the Ouachita or Ozark National Forest.

5 Your preference for a modified alternative D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

25 Shannon Drive
 Little Rock, AR 72207
 October 17, 1989

USDA Forest Service
 1720 Peachtree Rd. NW
 Atlanta, GA 30367

To whom it may concern:

In the strongest way, I wish to express my genuine concern about the use of herbicides in our state's national forests. My particular concerns arise from two sources: first, my grandfathered are just now entering the wonderful world of the outdoors, and I am saddened personally to think that their environment is increasingly worse than that which our has been; and, second, I am very worried about the incomplete data which is being used regarding the environmental testing of these herbicides. That we humans even consider exposing our world to things which we know too little about is frightening.

Please investigate all alternatives first.

Sincerely,
 Eleanor Bodenhamer
 (Eleanor Bodenhamer)

1

2

Response to Comments in Letter No. 189

From: Eleanor Bodenhamer

Comment No.

Response

- 1 Your concern about possible effects of herbicide use was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages 11-52 to 11-59 of the Draft EIS) are enforced. We require.
- 2 Appendix A contains a Risk Assessment which deals with incomplete data on herbicide effects on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Please see response to letter number 187.

4537 North O'Connor Road
Irving, Texas 75062
October 18, 1989

U.S. Forest Service
1720 Peachtree Road N.W.
Atlanta, Georgia 30367

Dear Sir or Madam:

I am entirely against herbicide use by the U.S. Forest Service for vegetation management. Chemical companies which produce the herbicides state "use at your own risk." Who will accept final responsibility for any unforeseen adverse environmental impacts? What is considered an "acceptable risk?"

Some visitors to these public lands may experience toxicity reactions. Other may be affected by possible ground water contamination. These risks are unacceptable to me.

I am further opposed to any vegetation management methods or intensive mechanical site preparation as these efforts will endanger plant and wildlife habitats.

VMDEIS failed to consider the full range of alternatives, such as integrated pest management as presented by Norma Greir in Region 6. The VMDEIS further did not consider an alternative with reduced number of total acres other than Alternative A.

Therefore I support, by reference, the NCWA modified Alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.

Thank you for this opportunity to comment.

Sincerely,

Joanne M. Cunliff

Response to Comments in Letter No. 190

From: Joanne M. Cunliff

Comment No.	Response
1	Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
2	Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
3	Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.
4	Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides ■ a possible treatment method. Alternatives A and B reduce acreage and alternative H increases acreage from Forest Land and Resource Management Planning levels. Any revisions or changes in Plan direction can easily be incorporated into any preferred alternative and acreage can be adjusted if necessary. We evaluated programs as they existed at the time of our analysis, not as they might be following some uncertain length of time, but we retained flexibility to adjust. Discussions of even-aged management is beyond the scope of this EIS.
5	Your preference for alternative modified D was included in the content analysis of all comments received. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: It seems as though the research on the effects of herbicides was very short sighted with a bias towards their use. Considering the history of herbicides to date any. Why? scientist should look with the utmost skepticism on their use. Everybody more ill effects and long term problems with pollution turn up. It seems also that the primary need for Comments on Alternatives: herbicide is in a clearcut (even-aged management system). Clearcutte ought to be illegal in my opinion because they are 1) ugly 2) promote Why? soil erosion 3) Reduce species diversity when managing for pine 4) Encourage the use of poisons on public land.

2 Other: I prefer Alternative D which leads us away from herbicide yet allow a harvest. Care will need to be taken Why? to do this Alt. correctly. It will take excellent foresters willing to study and work hard but the results of a (see additional sheet if necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JACK J VASLUSKI
 Name: First MI Last (Organization)
 HCE 72 Box 93
 Parthenon AR 72666
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 200

From: Jack Vasluski

Comment No.

Response

- 1 There is no bias towards the use of herbicides. The Draft EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Ozark and Ouachita Mountains methods other than herbicides are projected to be used on 75 percent of the total acres treated in the preferred alternative F in the Draft EIS (page II-12). The EIS simply shows that the preferred alternative, with its mitigations and inherent constraints, would improve treatment effectiveness with minimal adverse impacts. Furthermore, the determination of the most appropriate tool for a project must be made at the project level based on a site-specific analysis. A reasonable range of alternative methods, including the use of methods which do not involve herbicides, will be examined and evaluated, and IPM principles must be incorporated (Draft EIS pages II-38-41).
 - 2 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.
 - 3 While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).
- Your preference for alternative D was included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

Cleaner environment is not only desirable but seems overwhelmingly obvious given our present state of deep (and getting deeper) pollution.

Thank-you for this opportunity to comment. I know you guys can do the job right if given the opportunity and mandate.

Sincerely
Jack Vashuki

Leon S. Minckler, Ph.D.
Consultant - Environmental Forestry
Integrated Forest, Inc.

623 Bogie Lane, Route 4
Country Club Estates
Blacksburg, Virginia 24060

Phone: 703-951-1196

Oct. 21, '89.

VMOEIS Comments
Mrs. Forest Service

Re: Sma;

Herbicide use on mixed hardwoods in the East in "vegetation management" should have a very minimum use and only when clearly required because of some unusual past treatments. The Forests did very well under ecological laws in thousands of years before man became a factor.

Good silviculture emulates nature except perhaps on a different time scale. Above all herbicides should be confined to very specific site-type conditions. Most forest have tended to display the role of ecology in forest management and substituted artificial manipulation - right or wrong!

Sis (w/ly)

Leon S. Minckler

Response to Comments in Letter No. 201

From: Leon S. Minckler

Comment No.

Response

- 1 We agree that herbicides (in any timber type) should be used with care, and that decisions to use them should be based on site conditions. We do not discuss pine, mixed, or hardwood stands in this EIS, but recognize that all three types exist in the study area. Additionally, few would characterize Arkansas and Oklahoma as "Eastern."
- 2 This is an umbrella or programmatic document. Each forest has or is currently completing a Forest Land and Resource Management Plan. This EIS and the Forests' land management plans will be used when preparing site-specific analyses required in mitigation number 1 on Draft EIS page II-38. They will guide the process when working on specific projects. Please see implementation section, pages I-8 and I-10, of the Draft EIS.

Gary W. Schroeder
 801 S. Rodney Farham Rd.
 #34F
 Little Rock, AR 72205
 17 October 1989

Dear Forest Service:

This is to express my opposition to use of herbicides in the Ozark/Ouachita National Forests of Arkansas, because of incomplete and unavailable data with regard to long and short term effects on workers, non-target flora and fauna. There is also insufficient data on the cumulative & synergistic effects of the herbicides.

Sincerely,
 Gary W. Schroeder, Ph.D.

Response to Comments in Letter No. 202

From: Gary W. Schroeder

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in content analysis of all comments received.
- 2 Short- and long-term effects, cumulative effects, and synergistic effects are discussed in appendices A and C as well as in chapter IV. Appendix A contains a Risk Assessment which deals with incomplete data in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Chapter II contains mitigation measures which reduce or eliminate many of these effects as well as those to non-targets.

203

John Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Rd.
Atlanta, GA 30367

10/19/89

Dear Mr. Alcock,

I am employed by the Forest Industry in Pope county AR. I support Alternative F under the vegetation management of the Ozark-Quachita Mtn. area.

I believe the USFS has done a fine job managing the nation's timber and natural resources and that is why I support F even though I work for private industry.

If however the USFS allows private concerns of specialized environmental groups to dictate forest policy, I will join the industry position to provide a counter weight to their biased position.

Thank you

Kevin Tuckfield

Kevin Tuckfield
R# 2 Box 309
Russellville, AR 72807

Response to Comments in Letter No. 203

From: Kevin Tuckfield

Comment No.

Response

1 Your preference for alternative F has been included in the content analysis of all comments received.

Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. The preferred alternative (F) represents a set of methods and tools which allow us to accomplish goals and objectives of Forest Plans while at the same time considering the results of our analysis and the full range of public comment. Flexibility has been retained by our provisions for incorporating new data whenever it becomes available.

David Schroeder
6502 Chaparral
Texarkana, Texas 75501
October 19, 1989

VMDEIS Comments
USDA Forest Service
1720 Peachtree Road NW
Atlanta, Georgia 30367

VMDEIS Comments:

1 I would like to state my opposition to the use of herbicides and other intensive agricultural practices in the Ouachita National Forest. I regard the national forest as land entrusted to the people of the United States for a wide range of non-destructive use for ourselves and our posterity. It is land where the natural diversity of plant and animal species should not be altered. It is land that should continue to retain its wild characteristics and should remind us of our natural heritage.

2 However, I do not believe the national forest was ever intended to be a land where raising a crop of pinewood timber utilizing agricultural methods to eradicate existing species, so that more pine trees can be grown. I do not believe the national forest is a land to be scraped bare and intensively managed for timber production. And most of all I don't believe the national forest is a land where timber companies have an interest and priority exceeding beyond all bounds all other uses, (or non-uses), of the forest.

3 Timber management in the forest should rely on the selective harvest of mature growth. Herbicides represent a real and potential threat to the forest. The eradication of competing growth is the goal of herbicide application. But the loses of this flora will mean loses all the way up the food chain. Then there is the long-term effects to be dealt with, which of course could take decades to assess. My family visits the Ouachita National Forest several times each year. I eat the fish from its streams and the game from its woods. Now I have to be concerned with the adverse health effects of herbicide exposure.

4 There is plenty of marginal land in Arkansas held in private ownership that could be induced to grow pinewood timber. The Federal Government should not be subsidizing the timber exploitation of the forest in direct competition with private individuals who would grow timber for their own benefit. There is very little public and natural land left in Arkansas. If we can't save this little bit, what else is left worth saving?

Sincerely Yours,

David Schroeder
David Schroeder

Response to Comments in Letter No. 204

From: David Schroeder

Comment No.

Response

1 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

2 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

3 While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).

4 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I am opposed to herbicide use by the Forest Service. I am opposed to their efforts to turn mixed pine-hardwood forests into one-esp. pine woods susceptible to insect & disease attack. Herbicides, many as well, call them "spit coars", have many still undetermined long-lasting effects

Comments on Alternatives: which have not been completely studied. Your study does not take water standards, & adverse impacts of burning treated vegetation, long-term accumulative effects on human & other animal life into adequate consideration.

Other: I support the NWA modified alternative "D" with reduced total acres of degradation management on a low intensity basis only with an integrated pest control approach alternative "A", no action, why? Do not believe public lands should be managed with additional sheets as necessary, herbicide.

To return this comment sheet, fold and staple with USDA Forest Service address outside an drop in the mail (no postage necessary).

Name: First Last (Organization)
8 Jennifer ST
City State Zip Code
Greenbrier AR 72058

Tear at perforation

Response to Comments in Letter No. 205

From: Mill F. Gotwald

Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal short- or long-term risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.



Central State University

100 North University Drive • Edmond, Oklahoma 73060-0177 • 405-341-2980

College of Math and Science
Department of Biology

October 19, 1989

VMDEIS Comments
USDA Forest Service
1720 Peachtree Road NW
Atlanta, GA 30367

As a professional ornithologist and avian physiologist please consider my thoughts regarding the the alternatives regarding management of the Ozark/Ouachita Mountains.

There are numerous references in the literature to the negative effects of pesticides on avian welfare. Perhaps these effects have been exceeded only by the overwhelming downturn which occurs in avian diversity as a result of habitat destruction. It seems to me that only one of the options offered (D) provides any type of solution to the question. Even this option is not good. I would like to support a modification of alternative D by reducing the number of acres of vegetation managed and on these lands using mechanical methods very conservatively and employing an integrated pest management approach or no action at all in most areas.

I do not under any circumstances support the use of herbicides or major mechanical intervention, both of which are undeniably bad for avian populations.

Sincerely yours,

William J. Radke
William J. Radke, Ph.D.
Professor of Biology

Response to Comments in Letter No. 206

From: Dr. William J. Radke

Comment No.

Response

1 Your preference for a modified alternative D and opposition to the use of herbicides have been included in the content analysis of all comments received.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, and BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

Dear Sir,

Oct 17, 1989

- 1 I object to the use of herbicides in my national forests especially the Ouachita Natl Forest!
 - 2 The data on herbicide use is incomplete regarding the long + short term effects on workers, users, flora and fauna! Please don't turn our hardwood mountains into pine tree farms.
- I hanks for your concern.

Pam Rawlins
 Rt 1 Box 227A
 Bigelow, AR 72016

USDA Forest Service
 1720 Peachtree Rd. N.W.
 Atlanta, Ga 30367

Response to Comments in Letter No. 20Z

From: Pam Rawlins

Comment No.	Response
1	Your opposition to herbicide use was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
2	Appendix A contains a Risk Assessment which deals with incomplete information regarding herbicide effects on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Please see response to letter number 187.

Oct. 21, 1989

Evelyn Gilmer
29 Banana Lane A.
Hubert, Ok. 74441

Steve Magnusdalk:
Forest Service
South Region

Surey, I didn't receive the EIS.

- 1 No clearcut and burning.
Ancient forests must be saved (pruned).
100 feet of forest on either side of all
roadways and streams must not be
cut. No cutting within 100 feet either side
of all roadways and streams.
- 2 I do not believe Tax payers should
have to pay for roads into our forests to
cut down the trees we are trying to save.
- 3 No aerial application of herbicides.
Less roads into our forests.

Evelyn Gilmer

Response to Comments in Letter No. 208

From: Evelyn Gilmer

Comment No.	Response
1	The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each national forest. Prescribed fire is not only used in association with timber harvest. Actually its principle uses are fuel reduction and wildlife habitat improvement and maintenance (page II-12 of the Draft EIS). See pages II-18 through II-21 of the Draft EIS for a description of fire uses.
2	The issue of harvest areas and buffers not to be harvested is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each national forest.
3	The issue of road construction is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each national forest.
4	Aerial application of herbicides is evaluated in the Draft EIS, but it is not being proposed in preferred alternative F.

October 17, 1989

US Forest Service
1720 Peachtree Rd. NW.
Atlanta, GA 30367

Dear Sirs:

My comments on the vegetation management EIS for the
Ocala National Forest are simple:

① Please don't use herbicides at all in the forest.
I'd prefer other means that have less chance of harming
the forest, the vegetation, and water, as well as wildlife.
Little is yet understood about the short- to long-term effects
of herbicides, even to the workers applying it. Besides,
the main intention is to keep hardwoods down & promote
pine plantations, which I feel is a tragedy for
tourism, wildlife, & the environment. Other alternatives,
if you must kill back certain vegetation, is considering
carefully controlled use of sheep, driving coppenails
into the trees, manual cutting, and others I probably
left out.

Please select alternative D (as in Dog) for
planning vegetation management in the Ocala
National Forest. Thank you.

Sincerely,


2

Response to Comments in Letter No. 209

From: J. Glen White

Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Your preference for alternative D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

REGION 8

Forest Service Timber Purchasers Council
 AN AFFILIATION OF PURCHASERS OF NATIONAL FOREST TIMBER IN THE SOUTHERN STATES

2900 Chamblee Tucker Road
 Building 5
 Atlanta, Georgia 30341
 Telephone: 404/451-3545
 FAX: 404/451-2976

October 20, 1989

Mr. John E. Alcock
 Regional Forester
 U.S. Forest Service
 1720 Peachtree Road, N.W.
 Atlanta, Georgia 30367

Dear Mr. Alcock:

We appreciate the opportunity to express our views on the Draft Environmental Impact Statement (DEIS) for vegetation management on national forests in the Ozark/Ouachita Mountains. The Region 8 Forest Service Timber Purchasers Council ("Council") -- an affiliation of over 160 major purchasers of national forest timber throughout the South, expresses a deep interest in this matter.

The Council supports adoption of Alternative H as the most appropriate approach for vegetation management on the affected national forests. This option is superior because it utilizes all treatment methods and provides the best management balance. Unfortunately, because we are experiencing a trend of decreased timber production acreage, vegetative control levels must be intensified on those remaining acres available for harvesting. Therefore, management conducted to achieve maximum vegetation control is most fitting.

The Forest Service preferred Alternative F and the current Alternative C lack the ability to utilize all methods of management. Both selections abandon the use of aerial spraying as an effective tool. The Council believes aerial application performed by highly trained professionals is successful for the treatment of larger land areas. It is also more economical than other types of herbicide application.

The use of herbicides decrease under Alternative F. According to the Forest Service Margin of Safety (MOS), no human would be adversely affected by any of the herbicides used for vegetation management in Region 8. Approved forestry chemicals should be used to benefit vegetation on our national forests.

Alternative F relies too heavily on manual methods which are extremely labor intensive, more expensive, and require repeated treatments. Several manual treatments achieve the same results as one long-lasting herbicide treatment. While providing the optimum vegetation management for the area, Alternative H provides an economic advantage.

Response to Comments in Letter No. 210

From: Deborah B. Baker

Comment No.	Response
1	Your preference for retaining all legal and environmentally sound tools for use in vegetation management has been included in our content analysis of all the comments received. Alternative H provides for analysis of the full range of treatments and their effects.
2	We agree that aerial herbicide application can be economical, effective, and (our analysis shows) safe. It is considered as an option in alternatives G and H. However, we are unaware of any sites within our study area where it is essential to completion of the job.
3	We evaluated only those products which have been identified as being proposed for use by our on-the-ground managers. There are many other products which are available for use, but our failure to analyze them does not indict them in any way. It just means we don't plan to use them.
4	We agree with your observations about possible effects of manual. Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on page II-38 through II-59 are designed to cause the least environmental impact.

Page 2

Vegetation management is presently done on an average of 101,174 acres per year in the Ozark/Ouachita Mountains. Under Alternative H, that figure would increase to 126,156 acres. The Council feels this increase will enhance timber production, and benefit wildlife, soil, and visual quality of the area.

5

Although the Council finds it more difficult to comment on vegetation management for an area with no final Land and Resource Management Plans, we are confident that our alternative choice would remain the same. Alternative H best meets the vegetative needs of the region's national forests.

The Region 8 Forest Service Timber Purchasers Council again thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Ozark/Ouachita Mountains.

Sincerely,



Deborah B. Baker
Director

5 This is an umbrella or programmatic document. Each forest has or is currently completing a Forest Land and Resource Management Plan. This EIS and the Forests' land management plans will be used when preparing site-specific analyses required in mitigation number 1 on Draft EIS page II-38. They will guide the process when working on specific projects. Please see implementation section, pages I-8 and I-10, of the Draft EIS.

Vegetation Management
1720 Peachtree Rd NW
Atlanta, Ga. 30367-9102

Steve McConquodale,

Dear Sir,

I am opposed to any future herbicide use by the USFS for vegetation management for the following reasons;

You are extensive data gaps in the human risk and wildlife assessments on pgs. II-849 and III-66 & 67, volume I;

VMDEIS makes unjustified assumptions about the "acceptable risk" involved in herbicide use. Acceptable to who?? It's not acceptable to me to have my ground water plants

spoiled or such as blueberries & walnuts contaminated with a substance for which

there has not been adequate research into its possible adverse effects on humans. It is not acceptable to me that local people

lives in the areas to be sprayed should not be thoroughly notified of the areas to be sprayed, in advance of the spraying

and notified of the substance being sprayed and notified of how long a period sprayed plants are unsafe to use. It is not

acceptable to me that such areas are not posted with signs warning of herbicide spray and material used & cautions of

Response to Comments in Letter No. 211

From: Elizabeth Hillbrand

Comment No.

Response

1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.

such materials such as periods of unsepe use. And what of the wildlife that consumes such vegetation? Some of it could end up in the human food chain. It is my perception that the risk is unacceptably high and I feel justified in recommending that our public lands not be managed in this way.

I support the Newton County Wildlife Association modified alternative D with reduced total acres of vegetation management. The use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.

I do not believe the risks are acceptable for herbicide use and do not believe that public lands should be managed with them. Thank you for the opportunity to comment.

Sincerely,
Elizabeth Hellbrand
HC 32 Box 31
Bass, Ark. 72612

3 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

4 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

5 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

234

2621 Dixiana
Farmers Branch, TX 75234
10/23/69

U.S. Forest Service
1720 Peachtree Rd, N.W.
Atlanta, GA 30367

Re: Vegetation Management Draft E.I.S. -
Oachita National Forest

Sir:

As a citizen concerned about the health and preservation of our national forests and fiscal responsibility by the Forest Service, as well as a frequent recreational user of these areas, I am alarmed at your proposed adoption of alternative F!

I feel use of these forests for multiple purposes is sacrificed to timber production if herbicides and mechanical methods are used extensively to manage hardwoods. We are discovering more every day about the harmful effects of herbicides on people and environments remote from the areas where they are applied. That our tax dollars should be used to spray forests is scandalous!

While I realize that Congress has mandated that you manage forests for multiple uses, and

Response to Comments in Letter No. 234

From: Michael C. Rawlins

Comment No.

Response

1 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

2 Risk Assessment has been used to project risk to humans and wildlife where available data was missing or unavailable. This is a scientifically acceptable process which conforms to CEQ Regulations, 40 CFR 1502.22. The analysis consistently used conservative assumptions that deliberately overestimated potential adverse effects of herbicides to account for gaps in our data.

The EIS shows conclusively that alternative F improves the effectiveness and quality control of our vegetation management treatments while posing minimal risks to people and the environment (Final EIS sections IV.B through M). It causes no unacceptable environmental impacts. Application of least-risk herbicides at lowest effective rates using drift-control and safety measures and buffers (Final EIS section II.E.2.c), with 95 percent selective treatments in the general forest (Final EIS section II.B.6), poses minimal risks of adverse effects. Criteria for applying each method appear as mitigation measures (section II.E) and potential acres for each are shown in section II.B.

²⁻
 that you therefore must support timber
 production, I beseech you not to make
 timber production primary at the expense
 of preservation and recreation. Really, I
 find it somewhat absurd that we must
 perform any "vegetation management" when
 Nature usually does better when left alone.

Therefore, I urge you to adopt Alternative A,
 which provides for no management!

Sincerely,

Michael C. Rawlin

Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

Sandra Lane
2304 Masfield Lane
Correllton, Texas 75006
(214) 242-8704

October 23, 1989

USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Georgia 30367

Gentlemen:

In reviewing your Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains, I am submitting the following comments:

- Your preference of Alternative F is totally unacceptable.
- Alternative A with certain modifications is better.
- Vegetation growth on existing roads and trails can be maintained by manual and mechanical methods that cause the least soil disturbance. Areas for species that prefer low growth vegetation can be cleared by similar methods.
- Grazing of animals should be used.
- Herbicides and fire bombing of the forest should be outlawed.

I am appalled at the methods you are currently using. Some groups like the Nature Conservancy burn off prairies and some undergrowth, but they light fires at one end of the prairie, allowing wildlife to escape at the other end.

But you use firebombs and chemical gels which ignite whole areas, burning vegetation and wildlife alike. This method is inhumane and needless and should never be used.

Herbicides should never be used under any circumstances. They are a hazard to those who apply them, those who enter the forest where they have been used, and to wildlife unlucky enough to be living in the area. Herbicides stay in the soil and eventually seep into groundwater.

As for your scientific analyses, I am further horrified to find that you have tested these herbicides on animals. I don't see what can be achieved by this. Your findings are inconclusive in many instances and I think prove that these dangerous chemicals should not be used.

You certainly have impressive degrees and credentials, but I think you have lost your humanity somewhere along the way. Not only have you destroyed much of the forest, you have inflicted needless suffering on animals and perhaps humans who have come in contact with these hideous chemicals.

The national forests were established to preserve natural areas for the public, not to provide tree farms for the timber industry or a market for the products of chemical companies.

Response to Comments in Letter No. 235

From: Sandra Lane

Comment No.

Response

- 1 Your preference for alternative Modified A has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 Your opposition to use of herbicides and fire was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides and fire is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced. We require.

A site-specific burning plan is required for each prescribed fire (Draft EIS pages II-46 and II-47). Each such plan sets constraints on weather and fuel conditions and for resource coordination so that the prescribed fire will be safe and effective (Draft EIS page IV-123) and pose the least possible risk to the environment. Given such planning, and the fact that the preferred alternative does not allow severe, high-intensity prescribed fires (Draft EIS pages II-11 and II-46 to II-51), mortality of wildlife and plant regrowth is minimal (Draft EIS pages IV-38 to IV-40 and IV-75).
- 3 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 4 Analogy is a standard scientific method used to predict effects where there are incomplete or unavailable data. Modeling of effects from known information was done in all cases where scientific data were unavailable. Risks identified in this process are disclosed and considered in our analysis.

5

Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, ■■ supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, ■■ amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

Page Two

I certainly hope you will revise your objectives and methods of forest management to more sane, humane, and environmentally safe methods.

Sincerely,

Sandra Lane

EIS Team:

As a frequent visitor to the National Forests and a chemically sensitive individual, I have thoroughly studied the effects that herbicides have on human health, sensitive plants and animals, and ecological systems. I feel that everyone, including children (because they are especially vulnerable to chemicals), should be able to enjoy any part of the forest and have no risk of herbicide exposure. Since I often touch and brush against foliage and because of my chemical sensitivity, any use of herbicides is unacceptable to me.

After studying both excessively long volumes of the often poorly worded and frequently repetitive DEIS on TV in the Osark/Ouachita Mountains, I found the conclusions on herbicide safety to be based on 1) NOEL levels set too high, 2) extrapolation from animal studies which are completely unverifiable for humans, 3) risk assessments which lacked an adequate data base, and 4) guesswork used to cover data gaps. Often times no risk was assumed even though no studies had been done to determine all possible effects.

I find that no herbicides should be used in the National Forests because:

1) Vegetation can be maintained without herbicides by using manual, mechanical, and biological methods including fire. Studies in western and southern forests have shown manual vegetation maintenance to be cost competitive and often less expensive than maintenance with herbicides.
 2) Herbicides are deadly to non-target plant species and a serious hazard to sensitive plant species. The DEIS states that the 69 plant species classified as sensitive will be protected by a distance re-encumbrance and that the areas to be treated will be surveyed for the presence of sensitive plants. Since the Forest Service preferred alternative plans the use of herbicides on over 24,000 acres per year, it is completely unrealistic to expect sensitive plants (many of which are quite inconspicuous) to be detected and adequately protected on all these acres.

3) Herbicides are poisonous to wildlife that is exposed from spray, drift, foliage contact, eating of treated plants, and drinking of runoff and contaminated water. Tables in the EIS appendices show "adverse habitat effects" and/or "significant risk of toxic effects" from herbicides for all (32) of the sensitive animal species listed and all (0) of the endangered and threatened animal species. Mitigation measures mentioned in the EIS are meaningless for many of these animals because the animals can easily enter treated areas and may reside undetected in areas to be treated.

4) Herbicides pose an unacceptable risk to human health through contact with treated areas, drinking contaminated water, eating of treated plants, berries, and mushrooms, and eating wild animals which have these poisons in their tissue. Before these herbicides are excreted by the body they weaken the immune system and cause irreversible cellular damage which can lead to cancer, mutations, sterility, miscarriage, birth defects, and nervous system disorders. The risk to sensitive individuals is unacceptable since they have immediate, severe, and even life-threatening reactions and experience long-term illness from very minor herbicide exposure.

5) There is too great a danger of accidental spills, poor handling, and misuse of herbicides. The worst case analyses in the EIS are over conservative. (Spills onto workers last April in the Buffalo District exceeded the project's worst case scenario.) Once an accident happens the consequences are not reversible and the public will have to suffer the illness, water spoilage, and loss of plant and animal diversity.

From: Jeanne Dow

Comment No.

Response

1 The Draft EIS is prepared to conform to the requirements of the National Environmental Policy Act. Certain decisions about where to put information were made within the framework of the CEQ Regulations. Thus chapter I presents the process; chapter II presents the alternatives, summary information about the tools proposed for use, and conclusions from the analysis (mitigations necessary to cause an acceptable degree of risk), and a (conclusion again) comparison of environmental effects; chapter III presents environmental background; and, chapter IV presents the analyses by environmental element potentially affected and a summary of impacts by alternative. Though not everyone commented on readability of the EIS, most who did felt it was well done. We would be pleased to work with you to aid in understanding specific sections which trouble you.

2 NOEL's are evaluation of the highest dose of a chemical administered on a subchronic or chronic basis which causes no observable effect in test animals. It is scientific data not an arbitrary point. Thus, it is neither "...too high..." nor is it too low. The lowest NOEL among all tested species is taken to be an approximation of the human NOEL, and then a safety factor of 10 is used to make a more conservative (risk reducing) estimate. For further information see the discussion of Margin of Safety on pages 5-1 through 5-3 of the risk assessment (appendix A) and the discussion beginning with "Hazard Identification" on page IV-4 and ending with the discussion of "cancer potency" on page IV-8 of the Draft EIS.

3 Analogy is a standard scientific method used to predict effects where there are incomplete or unavailable data. Modeling of effects from known information was done in all cases where scientific data were unavailable. Risks identified in this process are disclosed and considered in our analysis.

4 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

5 Data presented in the EIS does not support this economic conclusion. However, alternative D displays effects and costs of such options.

- 6 Collection of inventory data is one step in the site-specific analysis required as mitigation measure number 1 (page II-38 of the Draft EIS) and mitigation number 2 provides more specific precautions for sensitive species. Pages D-10 and D-11 of appendix D diagram the decision flow in detail.
- 7 Please review the more rigorous presentation of risk to wildlife presented in chapters 6 through 8 of appendix A. Mitigations presented are adequate to protect these organisms from projected risk.
- 8 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received. However, neither the analysis presented nor the scientific data base reviewed support your conclusions.
- 9 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.
- The Council on Environmental Quality Regulations, 40 CFR 1502.22 require that "reasonably foreseeable" significant adverse impacts be evaluated in order to make a reasoned choice among alternatives, management requirements, and mitigation measures in part E of chapter II constrain the magnitude of reasonably foreseeable accidents (see especially number 28 on page II-58 of the Draft EIS). We used water-based accident scenarios rather than terrestrial because the potential for significant environmental harm is higher. The terrestrial accidents you suggest are possible, but pose less environmental threat than the accidents we evaluated.

- 10 6) The use of herbicides supports their reduction and thus the continued pollution of air and water and subsequent expenditure of taxpayers' money for clean-up efforts. Use of manual methods would benefit the local economy, supplying much needed jobs for local people.
- 11 7) Private lands within and adjacent to National Forest lands will be at risk from drift and runoff and leaching into watercourses and wells. Although the EIS passes off the danger as insignificant, no level of contamination is acceptable for these people since many of the chemicals studied are known or suspected carcinogens and mutagens.
- 12 8) The toxic effects of herbicides on the immune system and nervous system are not considered in the EIS (because no such studies are required by the EPA for registration). However, independent research has shown the devastating effects to animals in those areas and human cases of lost immune system functioning and neurological damage and illness from herbicides have been well documented by physicians and filed with the EPA.
- 13 9) Most of the herbicides studied in the EIS are only conditionally registered with the EPA. Extensive data gaps exist on the hazards of these compounds and their breakdown products and metabolites. Because of these gaps the conclusions about dangers made in the EIS are based on guesswork and are therefore totally unreliable and unverifiable.
- 14 10) Little scientific data exists on the adverse impacts of burning herbicide treated vegetation. The EIS says nothing about the dioxins, furans, chlorine gas, hydrochloric acid, cyanide, phosgene gas, or chlorine dioxide which could be contained in the smoke.
- 15 11) Massive data gaps exist on the synergistic and cumulative effects of full herbicide formulations, herbicide combinations, and herbicide/additive mixtures. Independent researchers have found some inert ingredients in herbicide formulations to be many times more toxic than the active ingredients. The inerts tend to promote and enhance the carcinogenic and mutagenic potential of the active ingredients and can be potent initiators of cancer and mutations themselves. Some of the herbicides and two of the additives reviewed in the EIS are known or suspected cancer-causers. Although the EIS states that risk to workers and the public is minimal, it is well known that there is no safe level of exposure to a carcinogen.

- 16 I oppose grazing since the EIS clearly shows its impacts on soil (compaction, erosion, nutrient loss), sensitive ecosystems (riparian areas), and sensitive plant species (from trampling and disturbance of habitat). Additionally, little control can be maintained over the cattle and the practices of the cattle owners and the resulting destruction of healthy areas and overgrazing.
- 17 I oppose all even-age timber management since this destroys the natural forest ecological balance and diversity, lessens recreation and tourism opportunities, severely erodes soil, silts streams, and ruins fish, plant, and wildlife habitat. Properly conducted single-tree and minor group selection can have some beneficial effects on forest ecology. The better quality, selected hardwoods and pine trees would raise more revenue than the pulpwood from clearcutting (which is heavily subsidized by taxpayers).
- 18 Vegetation manipulation should lean heavily on manual methods. Some mechanical methods can be used (for road and trail maintenance) but only in non-sensitive areas. Moderate to heavy mechanical methods have serious adverse effects on soil (compaction, erosion, and severe nutrient displacement and leaching), non-target plants (from scarring, trampling, unnecessary road building), sensitive plants and animals (from habitat disturbances, soil degradation, stream siltation, and root destruction), and visual quality and recreation for visitors (from unsightly sheared and torn vegetation and siltation of floatable streams).
- 19 In summary, I generally support the Newton County Wildlife Association modified alternative D, with low intensity use of fire and mechanical methods, no use of herbicides, and primary use of manual methods with an emphasis toward prevention (IPX techniques), least invasive action, and natural forest processes. Jeanne Dow P.O. Box 4111, Fayetteville, AR 72702

10 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

11 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

12 We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects. The definition of headache - neurotoxic effect is too narrow a focus of this symptom.

13 The conclusions drawn by the respondent are incorrect. Registration has been perfected for all herbicides reviewed except for a single test of carcinogenicity still being done for glyphosate.

14 Please see sections 4 and 5 of appendix A, the Risk Assessment, and pages IV-23 through IV-25 of the Draft EIS.

15 Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.

16 MOEL's are evaluation of the highest dose of a chemical administered on a subchronic or chronic basis which causes no observable effect in test animals. It is scientific data not an arbitrary point. Thus, it is neither "...too high..." nor is it too low. The lowest NOEL among all tested species is taken to be an approximation of the human NOEL, and then a safety factor of 10 is used to make a more conservative (risk reducing) estimate. For further information see the discussion of Margin of Safety on pages 5-1 through 5-3 of the risk assessment (appendix A) and the discussion beginning with "Hazard Identification" on page IV-4 and ending with the discussion of "cancer potency" on page IV-8 of the Draft EIS.

17 The preferred alternative does not propose the use of grazing as a vegetation management tool.

18

The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

19

Your preference for alternative Modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides ■■■ a possible treatment method.

John E. Alcock
 USDA Forest Service
 Atlanta, Georgia

Dear Mr. Alcock,

You have ask for our comments on the Ouachita Mountains
 Vegetation Management Environmental Impact Statement.

We feel that Alternative W has too many even age management
 plans; poorly protects trail and recreational resources and wildlife;
 and plans for more road construction and reconstruction than we would
 like to see in this area.

We would like to see Beech Creek, Brier Creek, Brush Heap and Cow
 Creek Mountain area protected completely from road building and
 logging.

Alternative V is our preference with the provisos that: 1. Timber
 stands be managed to promote the natural diversification of tree
 types rather than favoring one species or age group over another or
 encouraging single species stands, a practice that has caused such
 problems in Europe. 2. Prohibit any use of herbicides or insecticides
 in the Ouchitas. 3. Limit clearcutting to no more than 25% of the
 land to be logged in the foreseeable future.

Thank you for the opportunity to express our concerns about the
 future of our forest lands.

Sincerely,

Holland & Sallie Webb

Holland and Sallie Webb
 Rt 1 Box 245
 Broken Bow, Oklahoma
 74728

Response to Comments in Letter No. 237

From: Holland and Sallie Webb

Comment No. Response

- 1 The comments in this letter refer to policy decisions being made in the
 National Forest Land Management Planning process and not in this EIS.
 This letter has been referred to the planning team for consideration.



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October 23, 1989

Mr. John E. Alcock
 Regional Forester
 USDA Forest Service
 1720 Peachtree Road, N.W.
 Atlanta, GA 30367

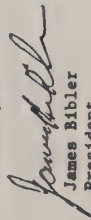
Dear Mr. Alcock:

I support the Forest Service's objectives to promote the long-term health and productivity of the National Forests.

I support Alternative H of the Draft EIS - Vegetation Management proposal for the Ozark/Ouachita Mountains. I do this because I think it provides the methods and tools to meet site specific needs. It provides for more long-term cost effective methods. It also will provide for a more productive forest for timber products as well as meeting other uses and need for the public.

Thank you for the opportunity to respond to this proposed plan.

Sincerely,


 James Bibler
 President

JB/lb

cc: Russellville Supervisor - Lynn Neff
 Ouachita-Hot Springs Supervisor - Mike Curran

Response to Comments in Letter No. 238

From: James Bibler

Comment No.	Response
1	Your preference for alternative H has been included in the content analysis of all comments received.
2	Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

P.O. Box 1213
Mena, Arkansas 71953
October 27, 1989

USDA
Forest Service
1720 Peachtree Road N.W.
Atlanta, Georgia 30367

Re: VEGETATION MANAGEMENT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Gentlemen:

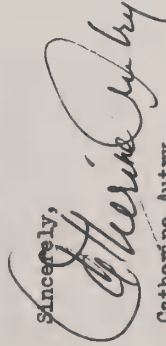
After attending the informational meeting at Rich Mountain College in Mena, Arkansas on Wednesday, October 25, 1989, I must once again go on record as opposing the use of herbicides in all our National Forests and in particular in the Ouachita.

In spite of the masterly handling of the subject by Misters Sick and Mistrata on behalf of the Forest Service too many questions remain unanswered, the most important of which may be:

Why--oh why--when we have more studies made by more expert, better educated people than ever before in human history, why does our environment become more and more polluted, and less and less safe for all living things?

Again, I am vehemently opposed to the use of herbicides in our National Forest.

Sincerely,



Catherine Autry

Response to Comments in Letter No. 239

From: Catherine Autry

Comment No. Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

240

6609 Shady Brook Ln # 3176
Dallas, TX 75206
October 23, 1989

US Forest Service
1720 Peachtree Rd NW
Atlanta, GA 30367
Dear Sir:

I am opposed to any future
herbicide use by the USFS for vegetation
management because their risk

assessment does not consider

1 whether some of the herbicides may
be tumor promoters or enhancers,
or initiators of cancer in combination
with other compounds that could
2 cause cancer. Neurological *

immunological data is not available
for all herbicides listed. The Draft

Environmental Impact Statement
(DEIS) does not consider these

impacts. Hexaminone applicators have
frequently complained of headaches.

Response to Comments in Letter No. 240

From: Dr. Elizabeth Anne Booth

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk in long term mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject: no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects. The definition of headache = neurotoxic effect is too narrow a focus of this symptom.

3 I am further opposed to use of any vegetation management methods on threatened, endangered, or sensitive (TES) plant + wildlife habitat because, if left alone, these areas will have a more stable environment with fewer human disturbances + more natural disturbances. TES species are already adapted to these natural disturbances.

4 I am opposed to intensive mechanical site preparation since the negative effects on soil + water quality are well known + severe enough to warrant a complete elimination of this practice on public lands.

5 Therefore I support, by reference, the NCAVA modified alternative D with reduced total acres of vegetation management, the use of mechanical + fire methods on a low intensity basis

3 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.

4 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.

5 Your preference for alternative Modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

6 only, primarily using manual methods with an integrated pest management approach leaning toward Alternative A.

Finally, I do not believe the risks are acceptable for herbicide use + do not believe that public lands should be managed with them.

Thank you for this opportunity to comment.

Sincerely,
Elizabeth Ann Booth MD

IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).



United States Department of the Interior

OFFICE OF ENVIRONMENTAL PROJECT REVIEW
POST OFFICE BOX 649
ALBUQUERQUE, NEW MEXICO 87103

October 26, 1989

ER 89/548

Mr. John E. Alcock, Regional Forester
U.S. Department of Agriculture
Forest Service, Southern Region
1720 Peachtree Road, NW
Atlanta, Georgia 30367

Dear Mr. Alcock:

This is in response to your request for our review of the Draft Environmental Impact Statement (DEIS) for Vegetation Management in the Ozark/Ouachita Mountains, Arkansas and Oklahoma. The following comments are provided for your consideration.

General Comments

1 This document presents a difficult and confusing picture of what is actually being proposed for National forests in the Ozark/Ouachita Mountains. As we stated in our August 11, 1989 comments on the Draft Supplement to the Final Environmental Impact Statement, Land and Resource Management Plan (LRMP) for the Ouachita National Forest, the LRMP does not provide an adequate basis for delineating a preference for the various alternatives under consideration. This is because vegetation management, regardless of whether manipulation is effectuated through mechanical, chemical, natural, or other means, which is tantamount to a forest plan, is not described in enough detail in each alternative for the reader to understand specific environmental consequences resultant from implementation of each alternative. Conversely, it is impossible to relate the vegetation management alternatives described in Chapter II of this document to the alternatives described in the LRMP for forest management in the Ouachita National Forest. This process appears to be a fragmented approach because it does not facilitate the inclusion of enough specific information upon which to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.

2 We are concerned with the Forest Service use of the term "mitigation" in reference to threatened and endangered species. "Mitigation" implies a "lessening" of impacts. This is misleading when applied to threatened and endangered species because adverse impacts are to be eliminated or avoided and not

Response to Comments in Letter No. 241

From: Raymond P. Churan

Comment No.

Response

- 1 Forest Land and Resource Management Plans and their accompanying EIS's are, by design, programmatic or general documents. Because of this, they do not contain greatly detailed information about site-specific effects of any nature. The Vegetation Management EIS is also programmatic, but does add detail to the Plan EIS. Alternative C reflects impacts anticipated if the Land and Resource Management Plans are implemented. The basis for identifying a preference is not part of the EIS, but is found in the Record of Decision.
- 2 Mitigation apparently means different things to different people. Because we are using the term in an environmental impact statement, we feel it is necessary to use the definition found in the regulations (40 CFR 1508.20). We believe this adequately addresses your concern.

"lessened". This philosophy parallels policy which states that the Forest Service will "avoid all adverse impacts on threatened and endangered species and their habitats . . ." and "identify and prescribe measures to prevent adverse modification or destruction of critical habitat and other habitats essential for the conservation of endangered, threatened, and proposed species. Protect individual organisms or populations from harm or harassment as appropriate" (U.S. Forest Service Manual, 10/86, AMEND 52, Section 2670.31 - Threatened and Endangered Species).

3 Another point of concern is that threatened and endangered species habitat should be afforded special consideration from the remainder of the forest. Simply applying the criteria from an alternative may not provide required protection for these species or their habitats. Management objectives for these sensitive areas should be carefully outlined and addressed in the same manner no matter which alternative is ultimately selected.

4 In addition, as a prelude to implementing any management action, we stress the need for a compartment-by-compartment inventory of plant communities and species, many of which may be candidates for Federal threatened or endangered status. In this regard, we are pleased that this document does not include any proposal for broadcasting of herbicides by helicopter; this technique could adversely impact non-target sensitive plants before such an inventory is completed.

Specific Comments

5 Chapter II, page II-40, paragraph 1 - Because that portion of the Ouachita National Forest within Oklahoma is addressed in this DEIS, the northern bald eagle recovery plan should also be included in Forest Service planning.

6 Chapter II, page II-44, part g. Wildlife - The outlined wildlife stand improvements are directed almost entirely towards edge species. As we stated in our comments on the LRMP for the Ouachita National Forest there is no shortage of ecotone and thus management for such objectives is not only inefficient but at a cost to forest interior species. This impact should be evaluated in Chapter IV.

7 Chapter II, page II-57 - Risk assessments indicate that triclopyr poses a potential significant risk to bats. To avoid impacting the endangered gray and Indiana bats, the DEIS states that this herbicide will not be "ground-applied within 50 feet of occupied gray or Indiana bat habitat." With the exception of known caves used for roosting, it will be difficult to locate these habitats. Indiana bats give birth to their young, as members of nursery colonies, under the loose bark of trees in riparian areas. Even experienced bat specialists have difficulty finding maternity colonies; as of 1983 only three had been found. All three sensitive species of bats that occur in the Ozark/Ouachita National Forests utilize trees for roosting and maternity sites

3 Threatened and endangered species habitat is afforded special consideration. Mitigation number 2 on pages II-39 and II-40 of the Draft EIS applies uniquely to this habitat. Additionally, effects on threatened and endangered species and habitats were treated separately in section E of chapter IV.

4 Discussion in appendix D (page D-8) and language in mitigation measure 2 on pages II-39 and II-40 address the need for inventory data.

5 N. Bald Eagle has been added.

6 Mitigations in this section, except possibly number 19, are written generally enough so as to apply to all species. Even number 19 seeks to reduce vast open areas with little edge variety. Decisions to emphasize edge or interior species are addressed in the Forest Land and Resource Management Planning process.

7 We have modified our mitigation measures to prohibit manual foliar spray application above eye level. This not only protects bats from accidental exposure; it reduces risk of applicator exposure. Our intent is to protect bat habitat no matter where it occurs. The site-specific analysis required by mitigation number 1 will identify where this habitat is located.

- in the late spring and summer. Many other bats including the silver-haired, red, big brown, Seminole, evening, and hoary bats also roost mainly in trees. To minimize risk to bats, we recommend no foliar spraying of triclopyr.
- 8 Chapter II, page II-67, paragraph 5 - It is misleading and likely inappropriate to measure the environmental effects on wildlife through habitat diversity. If diversity is to be used as an indicator, we recommend that it be approached at the gamma diversity level, not the alpha or beta diversity level, in order to evaluate long-term, broad effects.
- 9 Chapter III - The geographical area under consideration in this DEIS contains mineral resources such as sand, gravel, limestone, sandstone, clay, novaculite and probably other mineral deposits. Chapter III, Affected Environment, should recognize the occurrence of these mineral resources. We have found no instances, however, where the prudent and judicious exercise of vegetation management described would adversely impact the mineral resources. This analysis should be included in Chapter IV, Environmental Consequences.
- 10 Chapter III, page III-17, part d. Wetlands - We recommend that you reevaluate the statement that there are only 20 acres of wetlands in the Tiak Unit. A cursory review of the U.S. Fish and Wildlife Service's, National Wetlands Inventory maps indicates that many more acres of wetlands are found in both the Ouachita Block and Tiak Block. Due to the National emphasis currently placed on wetlands and apparent inconsistency of the DEIS, the Forest Service should include a definition of wetlands, provide a more accurate wetland acreage estimate within the Ozark and Ouachita Mountains, and address how wetlands will be protected by the Forest Service in accordance with such mandates as Executive Orders 11988 - Flood Plain Management and 11990 - Protection of Wetlands.
- 11 Chapter IV, pages IV-57-59, No. 4, Effects of Biological Methods- Biological vegetative control, in this case grazing, will likely only add to the effects of forest fragmentation on forest interior species, especially birds. For example, any forest practice that increases edge increases forest interior species' susceptibility to nest parasitism by cowbirds (*Molothrus* spp.). Therefore, while a biologically sound approach to forest management is desirable, the use of cattle will likely only prove detrimental to many forest species. We recommend that this issue be fully addressed and analyzed in Chapter IV.
- 12 Chapter IV, page IV-63, paragraph 4 - While this DEIS properly states that vegetation management results in a mosaic of habitats that increase "among-stand" diversity and decrease "within-stand" diversity, the DEIS does not adequately analyze "within-stand" diversity or the environmental impacts from reducing it; we recommend that this analysis be conducted.
- 8 We have avoided references to alpha, beta and gamma diversity principally to avoid controversy about specific definitions of those terms. If gamma diversity equates to landscape-wide diversity, such discussions are not within the scope of this EIS, but are addressed in Forest Plans.
- 9 We are unsure what purpose would be served by discussing mineral resources. You admit you are unaware of possible impacts. Our choice of topical areas was guided in part by 40 CFR 1500.4 and 1502.15.
- 10 We are reanalyzing location and acres of wetlands within the study area. Our final figures will be based on our definition for wetlands on page VII-8.
- 11 We agree. The effects are discussed on pages IV-57 through IV-59, IV-81, IV-84, IV-96 and IV-97, IV-109, and IV-126. The preferred alternative F does not include biological treatments.
- 12 The way vegetation management is used to affect all levels of diversity is a Forest Land and Resource Management Plan consideration. See our discussions of species composition and our response to number 8 above.

Chapter IV, page IV-105 - Comparing Forest Service herbicide application rates with agriculture practices provides little useful information in assessing the impact of herbicides applied in National forests. The types of chemicals, application rates, and registration for forest products can not be accurately equated to croplands and other agricultural land uses. Therefore, we recommend that Forest Service methodology for chemical use and any resultant environmental impact be independently evaluated.

13

Summary

Vegetation manipulation is only one form of forest management that may be utilized in conjunction with other practices within any given part of a National forest. In this regard, until specific vegetation management practices are described and comparatively evaluated in conjunction with other proposed forest management actions, for site specific locations, it is difficult to ascertain what the Forest Service's actual plan will consist of and evaluate those resultant environmental consequences. Based solely on the partial information presented in this document, Alternatives B or D appear environmentally preferable because they favor mid-to late successional stages and involve the use of little or no herbicides. Alternative B without herbicides or D without grazing would appear to be even more environmentally preferable. However, until all proposed forest management actions for each specific location within each National forest is described and a comparison of the specific environmental consequences for each alternative under consideration is presented, it is impossible to accurately conclude the environmental preference of one alternative over another.

14

Another concern relates to the effects of forest fragmentation. While the effects of fragmentation have been documented since the late 1950's, it has only been during the past 20 years that we have fully recognized the extent to which many species depend on forest interior habitats. Studies have revealed as great as a 50-percent reduction in avian species for each order of magnitude that an area is reduced. The continual fragmentation of the Ouachita and Ozark National Forests may possibly ultimately cause the loss of species from these areas. As Dr. C.S. Robbins (Managing North Central Forest for Non-Timber Values, James E. Johnson, editor, 1988 SAF Publication 88-04. Society of American Foresters, Bethesda, MD. 156 pp.) states:

"...management for native songbirds is synonymous with managing for ecosystems, outdoor recreation and aesthetics, and air and water quality. No special or expensive procedures are needed -- only careful long-range planning, followed by aggressive protection of the resource from unforeseen development pressure in the future. By providing habitat at all times for the

15

Figure IV-3 on page IV-105 of the Draft EIS displays onsite loading of herbicides. Because more people are familiar with agricultural uses, we compared loading to them. Other options, such as lawn care, landscaping or interstate highway treatments, could have been used if the same quality and quantity of reliable data had been available for them as for agriculture. This comparison provides extremely useful information to analysts and to the decisionmaker in that persistence has an indirect relationship to potential effects on non-targets and to potential for offsite movement. Note that the discussion you reference is found in the ground water section (usually affected by offsite movement).

13

Your preference for alternative B or D slightly modified was included in content analysis of all comments received. We agree that this EIS does not provide site-specific information.

14

We agree with your concerns about fragmentation and we at least touch upon this effect in the vegetation, wildlife, and threatened, endangered, proposed and sensitive species sections of chapter IV. For the most part, however, the fragmentation impact already exists when vegetation management treatments occur, and we state that on page IV-63 of the Draft EIS.

15


Effects of vegetation management on fragmentation will also be analyzed during site-specific analysis. Forest Land and Resource Management Plans address fragmentation from a very gross standpoint. This kind of analysis is beyond the scope of this EIS.

complex of forest bird species we should be able to avoid the expense of special programs to save individual endangered species in the coming decades . . ."

While Dr. Robbins restricts his comment to only songbirds, there is mounting evidence to show other taxa have a similar response. We concur with Dr. Robbins' statement and agree that in the long term this is the most efficient manner to manage National forests. In this light, we believe that forest fragmentation is a key factor in determining vegetation management for either the Ozark and Ouachita National Forests and that the DEIS does not properly or adequately address this problem.

We appreciate the opportunity to comment on this DEIS and anticipate that these comments will be of use to you during the development of subsequent planning and environmental documentation.

Sincerely,


Raymond P. Churan
Regional Environmental Officer

805 Quagapan Ave
 Fox Springs,
 Ark 71901

VADDES COMMENTS,
 USDA Forest Serv.
 1720 Peachtree Rd. NW
 Atlanta, Ga. 30367

Ladies and Gentlemen:

I am opposed to
 herbicide use by the
 Forestry Service for tree
 management because

- 1 I feel this is preventing both
 tree water and over air. I
 feel this management can
 be done fairly effectively by
 with animal grazing + with
 no environmental risk.
- 2 Sincerely,
 Pat Smith

Response to Comments in Letter No. 242

From: Pat Smith

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Potential herbicide effects on water are discussed in appendix C. Additional discussions about possible effects on water are found in part G of chapter IV. Discussions of effects on air quality are found in part H of chapter IV. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 3 Biological treatments are not without environmental effects. These effects are described at a number of places in chapter IV (see pages IV-57 through IV-59, IV-84, IV-96 and IV-97, and IV-109 of the Draft EIS).

The Honorable Dale Bumpers
3229 Dirksen Senate Office Bldg.
Washington, D.C. 20510

The Honorable David Pryor
248 Russell Senate Office Bldg.
Washington, D.C. 20510

Representative John Paul Hammerschmidt
2207 Rayburn House Office Bldg.
Washington, D.C. 20515

U.S. Department of Agriculture
Forest Service
P.O. Box 1270
Hot Springs, AR 71902

To All Concerned;

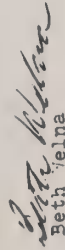
In reference to the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains, I prefer Alternative A, however I could live with Alternative D if it is modified to use mechanical and fire methods on a low intensity basis only in select cut areas, preserving the hardwoods, and all the "beauty" trees.

I am against the use of herbicides as I do not want them in my drinking water which comes from the Ouachita Mountains to the north of my home (according to the Corps of Engineers). These mountains are Forest Service land. Further I do not want to walk thru the mountains where herbicides have been sprayed. I am interested in native plants and do not want them eliminated via herbicides. Spraying is also harmful to wildlife. Let us not tamper with our heritage any more than is absolutely necessary.

I love spring with the blooming of the dogwoods, wild plum, redbud and so many others, and fall with its rich glowing colors (pine forests do not have fall foliage spenders). Herbicide use will eliminate all this beauty, and ruin our number one industry-tourism.

NO TO HERBICIDE USE.

Sincerely,



Beth Helna

Star Rt 9, Box 168
Mesa, AR 71953

13 October 1999

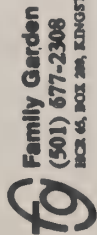
Response to Comments in Letter No. 243

From: Beth Helna

Comment No.

Response

- 1 Your preference for alternative A or Modified D has been included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.
Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.



Family Garden
(501) 677-2308
BOX 65, BOX 200, KINGSTON, ARK. 7742

10/35/89

USA Forest Service,

I recently read & received the Draft Environmental Impact Statement for Vegetative Management in the Ozark/Quachita Mountains.

I am in the plant/nursery business - therefore I feel I am a little more knowledgeable than the average citizen concerning the use of herbicides, pesticides etc.

Without taking the time to write a long drawn out letter - I would like to voice my opinion. I am against the use of any herbicides in the management of the National Forest.

I thank you

Lissa Morrison
owner Family Garden Nursery
PO Box 149
Pettigrew, Ar.
75752

Response to Comments in Letter No. 244

From: Lissa Morrison

Comment No.

Response

1 Your opposition to herbicide use was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

10/24/89

To: Policy Makers & Related
Employees of U.S.D.A.
Forest Service

I have been a resident of the Ozarks region for three years and, for most of my thirty-six years, a resident of the eastern 'deciduous' half of the United States. I am of sound mind, enough so to comment on your Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita region. Therefore, take notice (and I do have a copy of this letter):

Firstly, my sense of the Forest Service's track record indicates that someone else

2
 I should be doing the job of managing our National Forests therefore, as far as your data needs are concerned I vote for Alternative A (no action), which comes from the V.M.D. E.I.S. list of eight alternatives involving various combinations of five vegetation management methods.

My premise is that making a living means learning to live in harmony with what is real, and my understanding is that Forest Service policy must revert to the following prescriptions in order to earn the modifier 'harmonious':

1. I do not prescribe the

Response to Comments in Letter No. 245

From: Geoffrey Koala

Comment No.

Response

1 Your preference for alternative A has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2

National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

3

use of toxic (to humans or others) herbicides, but if they are used, then:

a. All people applying herbicides should be carefully asked every day how they are feeling after doing their work, and they should also be monitored by the best (most accurate and least invasive) means available for quantifying levels of toxicity (or lack thereof) and if they consistently feel adverse effects from the chemicals they apply, they should be given a chance to accomplish their ascribed portion of vegetation management by manual

3

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methods other than herbiciding at equal pay. And the forest service, not just the contractor, should be doing this asking and monitoring.

b. No 'prescribed' burning should be done on any land where 2,4-D (or any other) inadequately assessed herbicide has ever been applied. My understanding of 2,4-D's reaction to burning is that unless burned at much higher temperatures than those achieved by prescribed fire methods it (2,4-D) continues to be a major (if not even more so than before burning) problem to animal

4

4

Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.

The background information on half-life and persistence of 2,4-D presented in the EIS is a summary of the relevant data found in the scientific literature. This literature clearly documents loss to undetectable levels of 2,4-D applied at or below labelled rates -- but rates higher than previously used in our program. Conclusions from these data are clear: after little as 10 days (but no longer than 300 days) there is no longer a detectable level of 2,4-D present in the surface 2-4 inches of soil, this loss is due to a variety of factors including plant uptake; microbial degradation, hydrolysis, photolysis, movement in the soil, etc.; the half-life of 2,4-D is independent of the initial applied concentration; there is a statistically (but not ecologically) significant difference in persistence based on composition of the forest floor; etc. A more comprehensive discussion is found in Agriculture Handbook No. 633 beginning on page D-48.

Degradation processes in wood are generally slower than in soil. Most breakdown within plants results from the plants metabolism which ceases with the death of the plant. After plant death microbial action does proceed but there is a delay while the plant material is colonized by microbes. However, the best information currently available suggests that due to low concentrations of herbicides in the wood and due to pyrolysis, the residual herbicide does not pose significant potential risk (appendix A, page 5-32+).

Nowhere have we been able to establish that the proposed list of chemicals are thermolytic products of 2,4-D or any other of the approved for use herbicides nor has 2,4-D been used on National Forest lands in the Ouachita/Ozark Mountains for the last 2 years.

Based on the above two sets of data, we found no basis for considering the proposed scenario as having a "...reasonably foreseeable significant adverse impacts..." (40 CFR 1502.22(b)) and discussion of brown-and-burn was kept general "...in proportion to their [the effects'] significance..." (40 CFR 1502.2(b)).

5
respiration. Do you have any guarantees on the residuals of other chemicals in prescribed burning areas?

2. The arbitrary separation of the government agency directing vegetation management from the one directing timber management (as evidenced by the refusal of the U.M.D.E.S. 'response' team convened in Jasper, Arkansas to even talk about harvest problems when such was clearly public desire!) must cease and be replaced by integrated processing.

In particular, your

6

laudable concern with the excessive disturbance caused by non-mowing mechanical methods of vegetation management should be translated into a ban on clear-cutting timber management methods. If there is less post-harvest mess to clean up, as is the case in careful selective cutting, then there is less need to use piling, diskling, and raking tools. And this point leads me to my final (for the moment) point:

3. Manual methods of

5

Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

7

vegetation management, if well done, are good for the body, mind, and soul. Herbicide use, merely desensitizes, at best.

In conclusion, I ask you to understand and thereby address my concerns with your best energy.

Respectfully and
in strength,
I am Geoffrey Kaala
Keppa / Kaala

6

Manual methods are very much part of the program and a breakdown of projected acres treated by activity is found in the description of the preferred alternative, page II-10-11 in the Draft EIS. Chapter I explains the relationship of tools for each activity. Also, please refer to management requirement number 1 and 3, page II-38 and II-40 in the Draft EIS which require site specific analysis and IPM for vegetation management. During this process the most appropriate tool choice is determined.

October 27, 1989

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1729 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. Alcock:

Thank you for allowing me the opportunity to respond to the proposed Draft Environmental Impact Statement (DEIS) for vegetation management on National Forests in the Ozark/Ouachita Mountains.

I support the adoption of Alternative H as the most appropriate approach on National Forest lands here in the Ozark/Ouachita Mountains for the following reasons:

- 1) Aerial spraying has been found to be one of the safest vegetation management tools available - Alternative H supports this.
- 2) Manual treatment methods are very labor intensive and costly and Alternative H tends to replace these methods with the use of herbicides.
- 3) Other alternatives do not include all EPA registered and approved forestry herbicides that fall with USFS Margin of Safety.

I am convinced that Alternative H most clearly meets the vegetation management needs of the Ozark/Ouachita National Forest.

Thank you again for allowing me the opportunity to present my opinion on the DEIS.

Sincerely,

John Wainscott

John Wainscott
Route 1, Box 95
Jessieville, Arkansas 71949

JW/vc

pc: Senator Dale Bumpers Rep. Beryl Anthony
229 Senate Dirksen Off. Bldg. 1117 Longworth House Off. Bldg.
Washington, D. C. 20510 Washington, D. C. 20515

Senator David Pryor
264 Senate Russell Off. Bldg.
Washington, D. C. 20510

Response to Comments in Letter No. 250

From: John Wainscott

Comment No.	Response
1	Your preference for alternative H has been included in the content analysis of all comments received. We agree that aerial herbicide application can be economical, effective, and (our analysis shows) safe. It is considered as an option in alternatives G and H. However, we are unaware of any sites within our study area where it is essential to completion of the job.
2	We agree with your observations about possible effects of manual. Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on page II-38 through II-59 are designed to cause the least environmental impact.
3	We evaluated only those products which have been identified as being proposed for use by our on-the-ground managers. There are many other products which are available for use, but our failure to analyze them does not indict them in any way. It just means we don't plan to use them.

801 S. Rodney Parham Rd.
Apt. 34-F
Little Rock, Arkansas 72205

27 October 1989

VMDEIS Comments
USDA Forest Service
1720 Peachtree Road NW
Atlanta, GA 30367

With regard to the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains, I strongly oppose the use of herbicides for vegetation management for the following reasons:

1. Herbicides reduce biomass and composition, thereby destroying natural ecological processes. The adverse effects of such destruction cannot be reversed.
 2. VMDEIS fails to assess final responsibility for unforeseen detrimental environmental impacts resulting from herbicide use.
 3. Extensive gaps exist in the research data referring to assessments on human and wildlife risks (Vol. 1, pp. IV-8,9 and III-66,67). I believe that using herbicides without knowing the risks involved is sheer folly, and I cannot recommend that our public lands be managed in such an irresponsible way.
- Therefore, I support the alternative that proposes no herbicide use: Modified Alternative D (modified to eliminate mechanical site preparation).

Sincerely,

Veronika Guttenberger

Veronika Guttenberger

Response to Comments in Letter No. 251

From: Veronika Guttenberger

Comment No.	Response
1	<p>In both the vegetation and wildlife sections of chapter IV of the Draft EIS we disclose the potential temporary disruptions of both plant and animal communities which might result from the use of herbicides. These disruptions are <u>not</u> permanent and begin reversing immediately.</p> <p>In this EIS, we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, page II-38-39) recognizes the requirement for managing to maintain biological diversity.</p>
2	<p>Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.</p> <p>We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.</p>
3	<p>Your preference for alternative Modified D has been included in the content analysis of all comments received.</p> <p>As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.</p>

9 Green Lane
Morrilton, AR 72110

October 27, 1989

Mr. John E. Alcock, Regional Forester
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. Alcock:

The following is my comments on the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains.

I support the U.S. Forest Service and its objectives to promote the long-term health and productivity of the National Forests. In doing this, I feel vegetation management should be done that will be cost effective, safe for the public and meet the main purpose of National Forests - timber production.

I support **Alternative II** of the Draft EIS - Vegetation Management proposal for the Ozark/Ouachita Mountains with the following comments. This alternative provides for all appropriate treatment methods, including aerial spraying of herbicides. Aerial spraying needs to be included because it will be the most cost effective way of treating areas such as established plantation release work on the forests. Also alternative H has less manual methods and more herbicides than the other alternatives. Some manual methods have their place on site specific areas, but overall herbicide use will be most cost effective in the long-term of vegetation control and can be done in a safe manner.

Regardless of opposing views, the National Forests were established for timber resources to be used by our nation. That resource can be used for many multiple uses, but timber for timber products was and still should be the dominate objective in any National Forest plan and the vegetation management plan for the forest.

Response to Comments in Letter No. 252

From: **Bill Gresham**

Comment No.

Response

- 1 Your preference for alternative H has been included in the content analysis of all comments received.
We agree that aerial herbicide application can be economical, effective, and (our analysis shows) safe. It is considered as an option in alternatives G and H. However, we are unaware of any sites within our study area where it is essential to completion of the job.
- 2 We agree with your observations about possible effects of manual. Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on page II-38 through II-59 are designed to cause the least environmental impact.
- 3 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34. ■■ supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, ■■ amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Timber production is an important part of the objectives of management, but is not the only purpose for national forests.

John E. Alcock
10/27/89
Page 2

Alternative H will provide the methods and tools to meet site specific needs and will provide for more long-term cost effective methods. In the long term, I feel alternative H will provide for a more productive forest for timber products as well as meeting other uses and needs for the public.

Thank you for the opportunity to respond to this proposed plan.

Sincerely,

Bill Gresham

Bill Gresham

Oct. 25, 1989

Dear Sir -

We do not approve of
the management plans
to use herbicides to
keep vegetation down
under the Pine trees -
of course we do not
approve of the Clear-
cutting in our National
forests -

Jim & Helen Fisher
2070 Elaine
Philadelphia,
Pa. 19123

Response to Comments in Letter No. 253

From: Jim & Helen Fisher

Comment No.

Response

1

While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization that selective cutting is an alternative to herbicide use is generally inaccurate. Selective management for pines or hardwoods may require an increase in herbicide use to permit establishment of desirable regeneration (Draft EIS, chapter I, part B).

Oct 26, 1989

Vegetative Management EIS
1720 Peachtree Rd NW
Atlanta GA 30367-9100

- 1 I'm still against the use of herbicides. I made my opinion known in the forest plan and thought you were hedging - hoping many would give up and not bother to comment.
- 2 I do not approve of killing or stunting hardwoods. but my main objection to the use of herbicides is its run-off into our water. We are blessed here with good water, and I'd like to keep it that way. Polluting our drinking water may not happen in my lifetime, but is a poor legacy for future generations.

Sincerely,

Bessie S. Kane
Star Rt 9 Box 80
MENA AR 71953

Response to Comments in Letter No. 254

From: Bessie S. Kane

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Vegetation management methods including herbicide treatments are used for a variety of objectives. Pages I-4 through I-6 of the Draft EIS describe these objectives. Additionally, page II-12 contains a table which displays how herbicides may be used (in the Draft preferred alternative) for a variety of program areas.
- 3 Appendix C contains detailed information about potential herbicide effects on water. Part G of chapter IV also contains discussions of potential effects on water. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

October 30, 1989

Gentlemen:

I own 270 acres inside the Ozark National Forest in Baxter County Arkansas.

I believe it is in the best interest of the U.S. Forest Service and the private land owners not to use herbicides. The use of herbicides can contaminate the ground water and possible spill or wrong applications could permanently damage the environment.

I am in favor of manual methods of vegetation management but not the extensive mechanical site preparation.

Sincerely:

Thomas W. White
114 Francis Wood
Jackson, Me 39212

Response to Comments in Letter No. 255

From: Thomas W. White

Comment No.	Response
1	Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
2	The Draft EIS analysis examined a range of potential effects from spills by evaluating dumps of 5 gallons (a typical container size) into a 1-acre pond and 100 gallons (a full helicopter tank) into a 16-acre reservoir (volume II, appendix A, pages 4-67, 5-30 to 5-31, 7-12 to 7-13, and 8-22 to 8-43). Risks are higher for the pond spill, which we think represents a reasonable worst case since the pond is assumed to be stagnant with no chance for the turbulent mixing and inflow dilution that prevail in streams and rapidly reduce peak concentrations downstream. There has never been a recorded case of an accidental spill into any stream in the Southern Region, but we have mitigation measures requiring strict controls to avoid the occurrence of such rare spills and to quickly contain and clean them up (Draft EIS page II-58).
3	Manual and mechanical methods are very much part of the program and a breakdown of projected acres treated by activity is found in the description of the preferred alternative, page II-10-11 in the Draft EIS. Chapter I explains the relationship of tools for each activity. Also, please refer to management requirement number 1 and 3, page II-38 and II-40 in the Draft EIS which require site specific analysis and IPM for vegetation management. During this process the most appropriate tool choice is determined.

213 South Block
 Fayetteville, Ar. 72701
 October 29, 1989

To whom it May Concern:

- 1 I am writing to inform you that I am opposed to any future use of herbicides by the United States Forest Service or anyone else in the Ouachita or Ozark National Forests. I feel that herbicides pose a threat to both humans and all forms of wildlife which reside or pass through treated areas. Additionally, there are no studies of the synergistic and cumulative effects of these herbicides.
- 2 Personally, I am in favor of allowing the growth of native hardwoods or whatever nature puts into these forest areas. Existing ecosystems should not be tampered with in terms of destroying what already exists there as the interesting organisms are each dependent upon the other for their continued existence. Therefore, I favor a plan by which existing vegetation is allowed to grow without manipulation. I feel that it is time that we preserve our hardwood forests as they are indispensable to the continuation of life on this planet. Additionally, the continued exploitation of our valuable forests undermines the much needed efforts to get a viable paper recycling industry in operation.

Thank you for your time and for considering my viewpoint.

Sincerely,

Al Wick

Al Wick

Response to Comments in Letter No. 256

From: Al Wick

Comment No.	Response
1	<p>An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.</p> <p>Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.</p>
2	<p>Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.</p>
3	<p>Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.</p>

Concerning the DEIS-

I have read your document in its entirety and find that it inadequately addresses environmental and public health concerns, that it is incomplete by the omission of many alternative forest management methods, and that it is grossly biased, both in general language and in the structuring of alternatives, toward clearcutting and herbicide use.

I have studied the whole herbicide issue in intimate and exhaustive detail, including the scientific literature. I have consulted independent experts in toxicology, public health, environmental illness and rare plant ecology and conclude that there should be no herbicide use of any kind, and that the detriment of herbicides is so clear to any objective observer, that they should not even be included in the alternatives.

There is virtual unanimity on this point among every national environmental organization, leading me to suggest that they have been inadequately represented in the preparation of the DEIS. This shortcoming will lead to unending conflict with the public, I assure you.

Although I have broadly surveyed the issues and literature surrounding herbicide use, I have made a special study of the glyphosate types, specifically Roundup, and have included a hazard sheet with this letter. Note that 1. breakdown products (formaldehyde) are not discussed in DEIS, 2. reactions with nitrates in human saliva will not register in rodent tests, 3. toxicity, synergism, and enabling effects of inerts are inadequately or not discussed in DEIS, 4. the public is not informed in DEIS of inherent problems in testing facility/chemical company dependency, and deliberate falsification and/or shoddy testing in at least 47 different labs (FDA audit).

I have spent thousands of hours in the field surveying for rare plants and studying their habitat requirements, in both the Ouachita and (primarily) the Ozark National Forests, as well as several wildlife management areas and State parks. In this process I have found over 125 new county records, including a new state record, new stations for 3 plants of national significance (*Tradescantia ozarkana* in the Ozark N.F., Washington County; *Tomanthera auriculata* at Devil's Den State Park, Washington County; and *Silene regia* in the Madison County W.M.A.) and many new stations for 9 plants which are of special concern in Arkansas. It is my considered judgement, based on direct experience, that clearcutting is a totally unacceptable practice from which few, if any, rare and sensitive plants - including most of the orchids - could recover. Also it is my experience that clearcut and artificially disturbed areas are taken over by aggressive and/or alien species which gain a foothold and very quickly overrun native habitats deep into the surrounding forest, as well as choking out native plants in the clearcut area itself, which can no longer compete in the radically altered environment. Using herbicides compounds the problem, not only by putting native plants under greater stress, but by "selecting" out the more aggressive, hardy invaders. Flora of the Great Plains (1986), a cooperative work by twelve regional universities, states that "herbicide spraying (is) certain to favor some species at the expense of others, either by elimination of some or by suppression of their sexual reproductive cycles."

Response to Comments in Letter No. 258

From: Rory Dalton

Comment No.

Response

- 1 No experimental evidence exists to support the contention that formaldehyde is a breakdown product of glyphosate. Three papers speculated on this possibility, but none demonstrated the validity of the speculation. We are sensitive to newly developed data, and if conclusive, we have provided flexibility in implementation to accommodate it.
- 2 Formation of nitroso compounds is not probable at proper use rates. The issue of N-nitrosoglyphosate being formed in the mouth by saliva is speculation without scientific backing.
- 3 Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no evidence of potential synergisms is seen in the available data.
- 4 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- 5 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.
- 6 We have disclosed (chapters II and IV) available information about the effects of herbicide use. Special protection is afforded species which fall in threatened, endangered, proposed, or sensitive classifications.

And again, "there is need to preserve good samples of the native vegetation before agricultural pursuits and the current almost unrestricted use of herbicides extirpate many of our species over even greater areas." I cannot help but note that independent botanists, friendly to the concept of native diversity and familiar with the well-known menace of herbicides, are inadequately represented in the DEIS. In 1963, Steyermark (Flora of Missouri) estimated that it would take at least a CENTURY of intensive field investigations to even begin to understand how many undiscovered plants are in the state, or the location and extent of rare and sensitive plants. The idea of a cursory survey for rare plants (in DEIS) is illogical. The new records and stations I discovered were found only by a tremendous expense of time, effort, patience, personal funds and intensive study. This I have done as a friend to the forest and a friend to those who would enjoy its richness, and my recommendations are based on the concept that rigorous protection of natural forest ecology will best serve the public, both short- and long-term.

In principle, I support the plan put forward by the Newton County Wildlife Association, a mixture of alternatives A and D, but would like to make the following specific recommendations.

*1. No herbicide use of any kind. PLEASE READ my article.

Attempts should be made to improve tools and increase safety training for workers using manual methods. This is inadequately or not discussed in DEIS. Limited use of low-intensity, late season fires, using leaf fall or dead brush as a natural fuel, should be used, in consultation with the Nature Conservancy or others who have used fire successfully to enrich native biological diversity.

*2. No clearcutting. Single tree and limited use of group selection should be used. No new roads should be built, but some upgrading of old and abandoned trails and roads could be undertaken. Horses and minimum-impact wheeled sleds can be used to remove timber. Such a program is being used in Europe with great success. This alternative is inadequately or not discussed in DEIS.

Old growth areas should be protected from any "economic" cutting, established as core protected zones, and increased to at least 35% of total acres. It would be very courageous, but the Forest Service should consider a 10 year moratorium on cutting forest-wide until the effects of Global warming, world deforestation, acid rain and other threats to world biological stability are better understood. There is a clear consensus in the scientific community about the seriousness of these threats and the Forest Service is in a unique position to make a positive contribution. I. No cattle grazing. Cattle are an unnatural introduction into forest ecology, and I have observed many times first hand the damage they can do to sensitive plant communities. They also distribute weed and grass seeds in their manure, as well as herbicide and other potentially disruptive residues. *4. The hazard sheet and article were written by myself and constitute an integral part of the corpus of this comment. I ask you with a simple heart and for the public good to read and carefully consider their content.

Thank you.

Rory Dalton
PO Box 4111
Payetteville, Ark.

7 Statistics for safety presented by method are accurate. Within the Forest Service program over the last 5 years fewer accidents per 1,000 hours worked occurred in our herbicide program than in either manual or fire programs. Few assertions are made relative to health risks in the long term (herbicides and cancer/mutagenicity are discussed; brown-and-burn is discussed; etc.). However, various risks associated with respiratory damage from smoke or gas fumes, secondary infections, etc., resulting from manual, fire or mechanical tools are not adequately documented at this time.

8 Selection of timing for fires is a site-specific decision dealt with at the time of project planning (Number 1., page II-38 of the Draft EIS). However, note that mitigation measure number 1 on page II-46 requires a burning plan in addition to the site-specific analysis, plus (page II-11, Draft EIS) the theme of the alternative states "... only low to moderate intensity burns are applied..."

9 Grazing is one of many activities permitted under the multiple use concept. Grazing as a biological tool for vegetation management is not permitted under the preferred alternative. Grazing as a forest use is outside the scope of this EIS. It is discussed in the Forest Plans.

DELTIC FARM & TIMBER CO., INC.

PHONE 489-5223



OLA, ARKANSAS 72853

October 30, 1989

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. Alcock:

As a resident of Perry County Arkansas and Region Manager for Deltic Farm & Timber Co., Inc. of Ola (Yell County), living and working within the Ozark/Duachita National Forest, I appreciate the opportunity to submit comments on the Draft Environmental Impact Statement (DEIS) for vegetation management on these forests in the Ozark/Duachita Mountains.

The analysis on the various herbicides and the risk assessment for their application and use was very informing and thorough. Other vegetation management practices such as prescribed fire was also well defined. These forest management tools are very important and necessary to meet the objectives for the long-term health and productivity of our National Forests. The proposed alternatives to accomplish this objective vary from no action (Alternative A) to maximum vegetation control (Alternative H).

Vegetation management should be site specific to meet the many goals and needs for our forest. The alternative chosen should be flexible enough to allow for all appropriate treatment methods that would be most effective in cost and effectiveness. The current (C) and preferred (F) alternatives fail to meet this standard, particularly since neither includes the use of aerial spraying which can be the most cost efficient with less human exposure to chemicals.

I propose the adoption of Alternative H as the most appropriate vegetation management approach on national forest lands located in the Ozark/Duachita Mountains, from a conviction that it most clearly provides for all appropriate treatment methods, more long-term cost effective methods, provides a plan that protects health and safety, will promote the long-term health and productivity of the National Forest, will meet the goals and objectives to more accurately correspond with the projected needs from National Forests as outlined in Resource Planning Act, and will support maximizing timber production more than any other alternative to which I feel will be necessary to meet the needs of our communities as the current trend is providing less acreage for timber management.

Response to Comments in Letter No. 259

From: Bernard K. Bull, Deltic Farm & Timber Co., Inc.

Comment No.

Response

- 1 The Interdisciplinary Team is pleased that you find the EIS Informing and thorough.
- 2 Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on page II-38 through II-59 are designed to cause the least environmental impact.
- 3 This is an umbrella or programmatic document. Each forest has or is currently completing a Forest Land and Resource Management Plan. This EIS and the Forests' land management plans will be used when preparing site-specific analyses as required in mitigation number 1 on Draft EIS page II-38. They will guide the process when working on specific projects. Please see Implementation section, pages I-8 and I-10, of the Draft EIS.
- 4 We agree that aerial herbicide application can be economical, effective, and (our analysis shows) safe. It is considered an option in alternatives G and H. However, we are unaware of any sites within our study area where it is essential to completion of the job.
- 5 Your preference for alternative H has been included in the content analysis of all comments received.
National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

Mr. John E. Alcock
October 30, 1989
Page 2

Thank you for the opportunity to express my views on the Draft Environmental Impact Statement for the Ozark/Ouachita Mountain region.

Sincerely,

DELTIC FARM & TIMBER CO., INC.



Bernard K. Bull
Region Manager

BKB/bb

JOHN R. SWANSON
3800 Edmund Blvd.
Minneapolis, MN 55406

November 1, 1979.

US EA Forest Service
1720 Peachtree Rd. S.W.
Atlanta, Georgia 30367.
Dear Sirs:

Please accept my following comments concerning the
Vegetation management plan for the Georgia Department of
Natural Resources, State of Georgia.

I am acquainted with the National Forests of the State of Georgia, Mountain areas
and continue to agree that they contain outstanding natural beauty of
certain National significance.

I, then, suggest that if these Vegetation Managers are to be properly managed
they must receive manual methods management in this method at least
damaging to all resources and most effective in a regular management
program.

With evidence indicating that manual methods do not damage the environment
including wildlife, threatened and endangered species, soil, water, air
and vegetation resources.

and proper vegetation management must protect all habitats, visual
quality and all old-growth forests.

Sincerely,
John R. Swanson.

Response to Comments in Letter No. 260

From: John R. Swanson

Comment No.

Response

1

Manual methods may have some of the effects described, and appear to be
the least intrusive of all methods evaluated. However, they also have
other effects which must be considered such as effectiveness (pages
IV-59 through IV-62 of the Draft EIS) and risk of injury (pages IV-25
through IV-29 of the Draft EIS).

30 October 1983

Mr. Steve McConquodale
 Leader, Vegetation Mgt EIS Team
 USDA, Forest Service
 1720 Peachtree Rd., N.W.
 Atlanta, Ga. 30367

Dear Mr. McConquodale:

This is my response to the draft EIS on vegetation mgt for our forests. I have taken the time to read through most of this document & would like to briefly state my opinion. Most importantly, it seems that this document should have been presented in conjunction with the Land & Resource Mgt Plan for the Forest for the public to better understand what the base plan may really be. Without these documents together, it appears that a combination of Alternative B and D would be preferred.

I am in favor of multiple use of the Forest and management for *sero-diversity*. I strongly urge for the complete cessation of the gradual yet highly destructive action of forest management whereby mixed pine hardwood stands have traditionally been destroyed through conversion to pine monoculture. We should favor mix to late successional stages that predominate w/ hardwood species. Reduce clear-cutting large blocks of land. Stop all grazing. Enhance your definition of wetlands & enhance our wetland areas on the Forest. Increase the use of prescribed burning to favor wildlife species. Eliminate the use of herbicides

Response to Comments in Letter No. 261

From: Doug Hall

Comment No.

Response

1 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

2 Your preference for a modified alternative D or B and your opposition to the use of herbicides has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and copice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

manage the Forest more for wildlife and other natural resources other than pine production economics. Stop destroying the forest with extensive road systems that cost more to construct and maintain than the revenue from pine harvest brings in. Utilize broad base dips for minimizing erosion problem w/ road systems. Reduce mechanical site preparation due to erosion and water quality problems.

It would seem that the best course of action may be to return to the writing table and redo the Draft EIS to include the Land and Resource Mgmt Plan and some of the other factors mentioned above. I realize this is a detailed document but lets utilize our National Forest lands for the betterment of the public & not the extreme production of timber.

Thank you for the opportunity to respond.

Sincerely,

Doug Hesse
1161 Crooked Oak Rd.
Walthamville, Ga.

30677

Low-disturbance mechanical tools used for site preparation (e.g., chopping) produce an average erosion of 0.05 to 1.35 tons per acre, depending on landtype (Draft EIS page IV-88, table IV-11). The rate would be higher if mechanical tools could operate on slopes steeper than 35 percent (Draft EIS pages II-21 to II-26). Erosion from low-disturbance mechanical tools is low, but slope limitations preclude their use for site preparation on most sites in the Ozark/Ouachita Mountains. In addition, mechanical tools do not affect plants selectively ■ do manual tools or herbicides applied directly to individual plants.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: Excellent - You did your homework, Enclosed for the record: My to Home of Sept 18, 1988, Sept 18, 1988 & Oct 5, 1988, 15221A Oct 1 Lynn Moff Letter to me dated Sept 21, 1988 Why? Southwest Times Record Oct 15, 16, 21

2 Comments on Alternatives: Use G. Herbicides Favorable Wild life

3 Why? Non-Target plants Aerial Favorable prescribed Fires Favorable low to moderate intensity

Other: Mechanical favorable Moderate soil disturbance Wild life Economics Favorable Acoustics " Soil " Water

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary). Richard A. Gordon, Jr. President

Public Awareness Committee, Inc.

Name: First MI Last (Organization) 1445 No. 57th Place

Street City State Zip Code Fort Smith, AR 72904

Tear at perforation

Response to Comments in Letter No. 262

From: Richard A. Gordon, Jr., Public Awareness Comm., Inc.

Comment No.

Response

- 1 Your enclosures have been noted "for the record;" however, they only marginally relate to the vegetation management environmental impact statement.
2 Your preference for alternative G has been included in the content analysis of all comments received.
3 We agree that aerial herbicide application can be economical, effective, and (our analysis shows) safe. It is considered as an option in alternatives G and H. However, we are unaware of any sites within our study area where it is essential to completion of the job.

PUBLIC AWARENESS COMMITTEE, INC.
1145 North 57th Place
Fort Smith, Arkansas 72904

September 8, 1988

Mr. Lynn Neff
U.S. Forest Supervisor
Ozark--St. Francis National Forests
P.O. Box 1008
Russellville, AR 72801

Dear Lynn:

RE: Proposed Environmental Impact Statement: Vegetation Management
Ozark-St. Francis National Forest and Ouachita National Forest.

The Vegetation Management EIS team has made a presentation to the Public Awareness Committee, and I have had several discussions with members from the team in Atlanta. Today I visited with Steve McCorquodale, and he stated that even if we get approval for our forests on an equivalent basis to alternate G (Preferred) as set forth in the Vegetation Management in the Coastal Plains/Piedmont that we still might not be able to use helicopters to spray herbicides on right of ways even though the Vegetation Management Team stated that using herbicides on right of ways did less environmental damage than mechanical methods.

Please furnish information as to herbicide use in your forest and the reasoning behind using or not using herbicides.

We feel that it is in the best interests of all of the American people to use those methods which are scientifically proven most environmentally correct. We understand that a lot of pressure has been exerted on the Forestry Service to ban the use of herbicides, and most of this pressure has not been based on scientific information, but rather emotions.

The Vegetation Team indicated that much scientific research went into their conclusions, and this information was supplied by both governmental agencies, manufacturers of herbicides, and independent research organizations.

We feel that when the best scientific information available is obtained, that decisions should be based on this scientific information rather than on emotions. We want to work with you in every way possible concerning the Vegetation Management study which is in the process of being prepared. If there is any special information that you feel we should have, please take the initiative and send it to me. It is always a pleasure working with you.

Sincerely,

Dick

RICHARD A. GORDON, JR.
President

Mr. Richard A. Gordon, Jr., President
Public Awareness Committee, Inc.
1145 North 57th Place
Fort Smith, Arkansas 72904

September 18, 1989

Forest Service Number: 1920
Open Letter

Mr. John M. Curran
Forest Supervisor
Ouachita National Forest
P.O. Box 1270
Hot Springs, AR 71902

The Editor
Arkansas Gazette
P.O. Box 1821
Little Rock, AR 72203

Mr. Jonathan F. King, Editor-in-Chief
Sierra Magazine
730 Polk Street
San Francisco, CA 94109

Mr. Michael L. Fischer
Executive Director/Publisher
Sierra Club
730 Polk Street
San Francisco, CA 94109

Dear Gentlemen:

It is requested that this letter be published in the Arkansas Gazette and also in the Sierra Magazine. As a member of the Sierra Club, I have been very disturbed by the inaccurate information which has been published in the Arkansas Gazette and the Sierra Club Magazine. A copy of my letter of August 2, 1989 to Mr. King is enclosed. As stated in my letter,

As the representative of the Public Awareness Committee at the organizational meeting of the Ouachita Watch League (OWL), I was appalled that those individuals organizing this meeting refused to have persons with degrees and years of experience in wildlife management and forest management attend this meeting. The perception was 'lets not confuse the issue with factual information.' I might add, as an environmentalist, I have received a Presidential Citation for my work on environmental issues.

The Arkansas Gazette and the Sierra Magazine have an obligation to the people of this nation to obtain all facts pertaining to environmental issues from those individuals and organizations that have proven credentials as far as degrees from accredited colleges and universities, years of research which has been accepted by the scientific community, plus years of service in their appointed fields of expertise. A good example of this is Dr. Wigley's letter dated August 3, 1989, to the editor of the Arkansas Gazette, also, The Ouachita National Forest Reply to the Reviews of the Ouachita Forest Plan and Draft EIS (hereinafter referred to as REPLY). I am asking Mr. Curran to supply each of you a copy of this document, and I hope that you will have the courtesy to include portions of these documents in your respective publications.

The Ouachita Watch League requested that Mr. Bill Carroll, consultant forester, make statements on their behalf concerning the Ouachita National Forest which the Arkansas Gazette carried. In the REPLY which a copy is requested being sent to you, I quote in part from Dr. James B. Baker's letter of August 4, 1989, to Gary Pierson, planning team leader (but you will want to read the whole letter). "Mr. Carroll apparently has very little knowledge or understanding of uneven-aged (selection) management of loblolly-shortleaf pine.

He makes many erroneous statements and assumptions regarding uneven-aged stand characteristics and often cites (and extrapolates) published literature out of context." In my opinion, this is just about as strong a statement as any professional can make to another professional in saying THAT YOU DO NOT KNOW WHAT YOU ARE TALKING ABOUT. Also, the Ouachita Watch League requested Randel O'Toole make statements concerning the Ouachita National Forest Plan which have been repudiated by the Forest-Service. See page 10 of the REPLY.

In his review of planning data and a select few publications on uneven-aged management, Mr. O'Toole concluded, "The presumptions made in FORPLAN regarding revenues, costs, and yields all favor even-aged management even though the literature supporting such assumptions is often ambiguous and sometimes contrary to the FORPLAN data."

Many of Mr. O'Toole's suspicions of bias could easily have been addressed by examining our process record during his visit. A brief review of the data used to derive coefficients for FORPLAN could have clarified each of the points in question.

In my opinion, Mr. O'Toole did not take the time to obtain the necessary factual information before making his statements to the press.

The Ouachita Watch League, in my opinion, had the obligation of making certain that Mr. Bill Carroll and Mr. Randel O'Toole had factual, scientific information before they supported their position, and the Arkansas Gazette and the Sierra Magazine have the obligation of pointing out these scientific discrepancies.

The news media is always stating their obligation to protect freedom of speech; however, they do a disservice to the nation when they do not ascertain all scientific information concerning environmental issues.

It is the desire of the Public Awareness Committee, Inc., that the Arkansas Gazette and the Sierra Magazine drastically improve the quality of reliable information that appears in these publications.

At the present time, the Sierra Club is soliciting funds which, in my opinion, is based on faulty scientific information, and the Sierra Club officers have an obligation to the members of the Sierra Club that these members are furnished with factual information.

Sincerely,

RICHARD A. GORDON, JR.
President

cc: Senator Wycbe Fowler
Senator Bumpers
Senator Pryor
Representative Hammerschmidt
Representative Robinson
Governor Clinton

Mayor Vines
Judge Harper
Dr. James B. Baker
Dr. T. Bently Wigley
Steve H. Cole
George Landrum
Fort Smith Chamber of Commerce

Mr. Richard A. Gordon, Jr., President
Public Awareness Committee, Inc.
1145 North 57th Place
Fort Smith, Arkansas 72904

October 5, 1989

Open Letter

Mr. Michael L. Fischer
Executive Director/Publisher
Sierra Club
730 Polk Street
San Francisco, CA 94109

The Editor
Arkansas Gazette
P.O. Box 1821
Little Rock, AR 72203

Mr. Jonathan F. King, Editor-in-Chief
Sierra Magazine
730 Polk Street
San Francisco, CA 94109

Mr. John M. Curran
Forest Supervisor
Ouachita National Forest
P.O. Box 1270
Hot Springs, AR 71902

Dear Gentlemen:

It is requested that this letter be published in the Arkansas Gazette and also in the Sierra Magazine. As a member of the Sierra Club, I was very disturbed by the article that appeared in the Arkansas Gazette Sunday, October 1, 1989, by Joe Crommett. Quoting in part the article stated:

Rodney Dungan said ■ photographer's pictures are like a parent's children.

You can recognize your own anywhere.

So Dungan, owner of ARD Studios in Hot Springs, was surprised when film footage that he says he shot and copyrighted showed up on an environmental video opposing clear-cutting in the Ouachita National Forest.

If you shoot a picture, you know it's yours. You can spot it 10 years later," Dungan said. "It had to come from that footage because there was footage that appears nowhere else."

Dungan has filed a lawsuit against several environmental groups, including the Sierra Club, the Texas Committee on Natural Resources and the Ouachita Watch League, an umbrella group opposing massive clear-cutting in the Ouachita National Forest. He is also suing Video Image Productions of Jasper, which produced the film, titled "Future of the Ouachitas."

The lawsuit seeks to have all copies of the tape turned over to Dungan and seeks unnamed damages...

... "As far as I'm concerned they did it with complete disregard for me," Dungan said. "I don't think they have the right to steal to promote their own ideas."

He said about three minutes of his footage was used on the video which is about 20 minutes long. His film cost several thousand dollars to shoot, he said, and was not for sale to the environmentalists at any price because he does not agree with their views.

"I don't want to be known as someone that goes in something as radical as this," he said. "Whatever I can get, I would like to have a dollar from every member in those organizations, a dollar would be several million dollars."

In my opinion, it appears the possibility that the actions of a few have placed all members of the Sierra Club and others in jeopardy. By this letter, I am asking Mr. Fischer to instigate a full-blown investigation into this matter and the conduct of others in some of the information that has been put out by so-called environmental groups which, in my opinion, has done great damage to the environmental community because of misinformation.

We are presently working on green zones in which we have been able to save trees and working with governmental agencies, civic clubs, and youth groups, we are causing the planting of many trees. We are working on many other environmental projects dealing with many different governmental agencies and organizations and any appearance of misconduct on the part of any environmental group throws a shadow over all of us that are environmentalists trying to improve the environment and educate the general public to environmental issues and to encourage our youth to take an active part in physically improving our environment.

The Sierra Club in the past has been a leader in environmental issues, and if the club, through their representatives, does anything that places a mistrust in the general public will cause doubt in the future on any projects that are approved by the Sierra Club.

The actions taken by the leadership of the Sierra Club will ascertain our credibility to the general public, and this matter cannot be swept under the rug, and all members of the Sierra Club should be fully informed as to what action is being taken and will be taken. Please refer to my letters to the Sierra Club, et al, the OWLS, and to Beth Johnson concerning the environment.

If I may be of any assistance to the leadership of the Sierra Club, please feel free to call on me. I am requesting a written response from the Sierra Club to this letter and to my concerns.

Sincerely,

Richard A. Gordon
 RICHARD A. GORDON, JR.
 President

cc: Senator Wyche Fowler
 Senator Bumpers
 Senator Pryor
 Representative Hammerschmidt
 Representative Robinson
 Governor Clinton
 Dr. James B. Baker
 Dr. T. Bently Wigley
 Steve H. Cole
 George Landrum
 Todd McCall

Reply to 1950

Date September 21, 1988

Mr. Richard A. Gordon, Jr.
Public Awareness Committee, Inc.
1145 North 57th Place
Fort Smith, AR 72904

Dear Dick:

The use of herbicides was a public issue in the development of the Land and Resource Management Plan, Ozark-St. Francis National Forests. It is now an issue in resolving the appeals on the Land Management Plan.

The Land Management Plan states on page 4-12:

"A silvicultural examination and prescription will determine specific vegetation management practices following NEPA procedures. If this prescription recommends herbicide use, the environmental analysis will consider herbicide kind, application rate, method and potential environmental effects. The Forest will not use herbicide aerial application.

The Forest Service will not deviate from court stipulations resulting from Newton County Wildlife Association's lawsuit challenging the Forest herbicide program, until the Forest Service prepares a new Vegetation Management Environmental Impact Statement."

As you pointed out, the Forest Service is preparing a new Environmental Impact Statement, Ozark/Ouachita Mountains Vegetative Management EIS. The new EIS could change herbicide use direction and guidelines.

Aerial application of herbicides cannot be used on the Ozark-St. Francis National Forests unless, (1) The new Vegetation Management EIS and Notice of Decision include aerial application in the preferred alternative, and (2) The Land Management Plan is

Mr. Richard A. Gordon, Jr.

2

amended. The use of aerial application would still require a site specific analysis.

Herbicides are currently being used in rights-of-way management where analysis show they do less environmental damage than mechanical methods.

Herbicides are applied by several methods, but are not aerially applied.


In addition to use in rights-of way management, herbicides are also being used in timber, range, and wildlife management activities. There has been some very limited use in recreation management activities. Use is determined on a case-by-case analysis.

The Ozark-St. Francis National Forests are using several of the herbicides and many of the guidelines proposed in the Vegetation Management in the Coastal Plains/Piedmont DEIS.

You are right in that we do receive some pressures to ban the use of herbicides on the National Forests. We do try to use the best available information in determining what vegetation management treatment method to use. We use herbicides in vegetation management on about 12,000 acres annually.

Thank you for your continuing interest in the management of the Ozark-St. Francis National Forests. We appreciate your interest in the Vegetative Management Study and will keep you informed as we move through the EIS process. As we can be of service, please let us know.

Sincerely,



LYNN G. NEFF
Forest Supervisor

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 There are too many known and unknown dangers with the use of herbicides to both animal life (including human) and the ecology.

Comments on Alternatives:

2 Using local labor to naturally clear would help our local economy.

Why?

3 Other: Of all places our national forest should be left as natural as possible including the growth of whatever species are natural to the area.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First SARAH, MI Last CLARK (Organization)
Street: HCR 33, Box 83
City: CAMPTON, ARK 72624
State Zip Code

Tear at perforation

Response to Comments in Letter No. 263

From: Sarah Clark

Comment No.

Response

1 In this document we have complied with the Council on Environmental Quality (CEQ) regulations on incomplete and unavailable information, which require analysis of "... reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) to comply with CEQ's requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are essentially worst case analyses that exceed CEQ requirements.

The Risk Assessment used a modeling approach to estimate the potential of each herbicide, additive, and inert ingredient to cause toxic effects, cancer, mutations, and birth defects under a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). It also evaluates bioaccumulation and synergism of the chemicals. Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures. The effects of those exposures are evaluated based on toxicity data for each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community.

The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 633, and it was subjected to rigorous scientific review. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were consistently made to deliberately overestimate potential health risks to people and wildlife.

2 Choice of treatment method has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program (see minor differences noted in table II-8 on page II-70 of the Draft EIS). What would be affected is the Forest Service's ability to fulfill current Congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to achieve the desired effect. This results in less effective management and increased costs.

3 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining, and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained-Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1 I prefer Alternative B because herbicides are not used

Why?

2 I believe this alternative is better for the wildlife and there will be no herbicides to pollute the lakes and streams.

Other:

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Tear at perforation

Name: First Dorothy M. Last Ruhr
Street 10 Lakewood Lane
City Hot Springs Village Ar. (71900)
State _____ Zip Code _____

Response to Comments in Letter No. 264

From: Dorothy M. Ruhr

Comment No.

Response

- 1 Your preference for alternative D which uses no herbicides was included in content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Potential effects on wildlife are described in part D of chapter IV. Potential effects on water are detailed in appendix C as well as part G of chapter IV of the Draft EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though... However you decide to respond, please help us by making specific and meaningful comments.

Comments on Scientific Analysis: I do not believe that your scientific analysis is sufficient to support the kind and level of vegetative management particularly with regard to herbicides, that is indicated for your preferred alternative: F. Why? Data & Research on bioaccumulation, migration via soil movement, water action, and air borne dispersion is not adequate or convincing. Biocide danger to the environment, plants, animals and people is consistently downplayed. Insufficient attention to results of Comments on Alternatives: Together, excessive vegetative manipulation is demanded by all alternatives except A. All alternatives pine conversion, and discount IPM strategies (not considered) which could replace current proposed excessive herbicide use. Preferred of WFS (F) Why? Has too much acreage under herbicide. Not one acre should be subjected to herbicide, and if herbicide is used it should be done under IPM strategy. My preferred alternative is A (or D, as modified) by the Newton County Wildlife Group: 1) reduced total acres managed, 2) Other: Low intensity use of mechanical & fire; 3) IPM approach w/o herbicide use.

Why? I advocate the approaches (B or modified D) which have least impact on the forest, including low or no herbicide use, minimal vegetative management in general, including as little as possible pine conversion. Including clearcutting, the forests are being managed to death.

To return this comment sheet, fold and staple with USDA Forest Service address outside drop in the mail (no postage necessary).

Name: First MI Last (Organization Community) David L Haenke - Ozark Area Rt. 1, Box 20 Sweet Springs, MO 65550 State Zip Code

Tear at perforation

Response to Comments in Letter No. 265

From: David L. Haenke

Comment No.

Response

1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

3 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is required (Draft EIS page IV-54).

- 4 Your preference for alternative A or Modified D has been included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 5 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 There are too many unknowns with herbicides. Why? I believe that we will live to regret our use of chemicals to destroy natural environment. Every time humankind destroys the natural balance of nature, there are worldwide consequences. So we must use a moral and ethical scale. Comments on Alternatives: If training is needed, manual methods are acceptable.

2 Why? Because unemployment rate is so high, manual care would give local people jobs. It would also dispose of selected trees, not all trees in an area.

3 One: I am opposed to any use of herbicides.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Maureen Boedoch (Organization)
City: Ft. Worth, TX Zip Code: 76112

Tear at perforation

Response to Comments in Letter No. 266
From: Maureen Boedoch

Response

Comment No.

1 Appendix A contains a risk assessment which deals with unknown effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

2 Choice of treatment method has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program (see minor differences noted in table II-8 on page II-70 of the Draft EIS). What would be affected is the Forest Service's ability to fulfill current Congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to achieve the desired effect. This results in less effective management in increased costs.

3 Your opposition to herbicide use was included in content analysis of all comments received.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 **Comments on Scientific Analysis:** *I feel that the long-range effect of herbicides accumulation in ground water (i.e. springs & other watersheds utilized for human & animal consumption), as well as herbicide decomposition by-products has been insufficiently covered in your report.*
 Why? *Because I don't accept laboratory results as God's truth and furthermore when I say long-range I am concerned about effects 25-50 years down the road. Where are your analyses for that time frame?*

2 **Comments on Alternatives:** *Personally I prefer Alternative "A" as God intended nature to provide for itself as well as humans and not set up a system which untampered with is self-perpetuating & nourishing. If for any reason management techniques must be applied I am most supportive of manual methods that would implement a sane program of forest management & assure future generations the clean water, untainted food & natural beauty we are presently the stewards of.*
 Other: *If herbicides are used and my water supply becomes polluted I contract cancer or some other horrible disease. The*

3 *Why? Government, the forest department and all your collaborators are the responsible parties in the genocide of the American people. I will hunt you all down & you will pay the price for the murder of unborn generations (use additional sheets as necessary)*

To return this comment sheet, fold and staple with USDA Forest Service address outside & drop in the mail (no postage necessary).

Name: Denise Marie Dore (Private Citizen)
 First MI Last (Organization)
P.O. Box 127
 Street City State Zip Code
Wasper AR 72644

Tear at perforation

Response to Comments in Letter No. 267
 From: Denise Marie Dore

Comment No. _____ Response _____

1 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

3 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

4 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

Your preference for alternative A has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

Why?

Other: The public prefers that more natural means be used for herbicide purposes. We have a well and worry about run offs. We also think this whole technology is too new and that our national forests should not be experimented on.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: VIRGINIA H BOOTH (Organization)
City: HURTS BOX 1
State: ARK
Zip Code: 72642

Tear at perforation

Response to Comments in Letter No. 268

From: Virginia H. Booth

Comment No.

Response

1 Your concerns about possible herbicide effects were included in content analysis of all comments received. Appendix C contains detailed discussions of possible herbicide effects on water. Additionally, part G of chapter IV discusses effects on water. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I AM OPPOSED TO YOUR USE OF ANY CHEMICAL ADDITIVE ON OUR NATIONAL FOREST, ESPECIALLY IN A REDWOOD. HAVE WE NOT MESSED UP OUR ENVIRONMENT ENOUGH? I AM OPPOSED TO WEED HERBICIDES ON OUR NATIONAL FOREST.

Why? we know you know the possible effects on our surface water, little on our ground water. The bioaccumulation has not been addressed and I am not willing to accept, and I don't think you should either upon me and others the possible adverse environmental impacts. The risk are unknown and too great.

Comments on Alternatives: The risk of burning of herbicide treated forest has not been addressed. As one means what risks exist from creation of dioxins, d-furans, Chlorine gas, hydrochloric acid, and Phosphene from burning these herbicides. What about Secret insect injudicious use of these herbicides such as diazinon that was in 2,4-D? These herbicides Why? Seem to have been ignored. Several people in California become severely ill from eating so called "safe" cantaloupe treated with only 1/5 level Pesticide Predicted to be toxic.

You have not adequately worst case incidents such as Cracking a plane other than of herbicides in an heathen. This is too great a risk to our environment.

It is even doubtful if use of herbicides to manage forest growth is effective and efficient. In the past the use no value does not even Why? Justify the cost - not to mention the health and environmental risk involved. Use of herbicide does not even benefit local communities. There is no good reason for using herbicides and multiple reasons to not use herbicides. Please do not use herbicides on our national forest.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
P.O. Box 4141
Street
FAYETTEVILLE, AR 72702
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 269

From: John H. Paschal

Comment No.

Response

1 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, in granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

2 Please see response to comment number 4 in Letter No. 245.

3 Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.

4 In this document we have compiled with the Council on Environmental Quality regulations on incomplete and unavailable information (1502.22). There have been recent changes about how to evaluate incomplete or unavailable data. The Council on Environmental Quality issued regulations in November 1978 (40 CFR 1502.22) which required that a worst case analysis be performed to estimate risk of relevant missing information. In 1986, they modified this provision to require analysis of "...reasonably foreseeable significant adverse effects to the human environment..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) using the 1986 requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are similar to the worst case analyses required under the earlier regulations. Thus, we have attempted to address both sets of regulations in our analysis.

See page 4-67 in appendix A which describes an accident.

5 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I oppose use of herbicides in timber management except for extreme cases of disease control.

Why? Killing broadleaf ornamental trees is not warranted just to improve pine trees which end up as wood pulp or low grade lumber. Also your risk analysis is weak.

Comments on Alternatives:
Alternative A seems too restrictive. B and D seem to be best compromise.

Why? Harmful actions held to a minimum.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

Name: PAUL W VINEBERG
First MI Last (Organization)
3109 PHOENIX DR
Street: Ft Worth TX 76116
City State Zip Code

OWN LAND NEAR MT IDA
FAMILY HAS LAND NEAR NAIL, ARK

Tear at perforation

Response to Comments in Letter No. 270

From: Paul H. Vineberg

Comment No. Response

- 1 Page II-12 contains a table displaying 13 program areas where herbicides may be used in Draft preferred alternative F. There is no information presented which implies herbicide treatments are limited to pine stands. Rather, they are used in nearly all activities involved in controlling unwanted vegetation.
- 2 The Risk Assessment in appendix A was prepared to comply with the Council on Environmental Quality Regulations, 40 CFR 1502.22.
- 3 Your opposition to herbicide use and preferences for either alternative B or D were included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 I am opposed to any future herbicide use by the USFS for vegetation management in the Ozark/Quadrant area. The reason is because there are huge data gaps in the research information used for the development of the risk assessment portion of VMDEIS. The adverse impacts of burning herbicide-treated vegetation have not adequately been addressed. VMDEIS fails to assess final responsibility for any unforeseen adverse environmental impacts. Finally, the people will bear the ultimate responsibility for herbicide use.

2 I am opposed to intensive mechanical site preparation since the negative effects on soil and water are severe enough to warrant a complete elimination of this practice on public lands.

3 I support Alternative A reaction, but feeling that, that that Alternative D with reduced total acres of vegetation management on a low intensity basis, is preferable to any herbicide use. Thank you for this opportunity to comment.

To return this comment sheet, fold end staple with USDA Forest Service address outside in drop in the mail (no postage necessary).

Name: SUSAN L. Siegel
 First MI Last (Organization)
PL 5 Box 129-B
 Street Huntsville AR 72714
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 271

From: Susan L. Siegel

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
 Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.
 Your preference for alternative A or Modified D has been included in the content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 3

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The risk level to humans of herbicide use seems unacceptably high.

Why? The scientific studies done on immediate and residual effects of herbicide use do not conclusively rule out harm to humans and wildlife

Comments on Alternatives:

1 encourage manual methods, if any, of forest management.

2 Why? Less harm to environment and more local employment

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Felicity M. Turner
707 Crest Dr.
State: Fayetteville AR Zip Code: 72701

Tear at perforation

Response to Comments in Letter No. 272

From: Felicity M. Turner

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received. Risk levels are discussed and evaluated in the Risk Assessment (appendix A) and in parts B and D of chapter IV. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk in long term mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Choice of treatment method has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program (see minor differences noted in table II-8 on page II-70 of the Draft EIS). What would be affected is the Forest Service's ability to fulfill current Congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to achieve the desired effect. This results in less effective management and increased costs.

To Whom This May Concern :

Due to my health and time I'm going to write this and if you can use it I will appreciate your fixing it under the heading, you desire.

This is a big subject and I find your volumes real interesting. Especially since I went thru what I have this year. If I throw some of that in this report forgive me.

I'm sorry I'm so late getting this in. My health is bad. I went to hospital in August and just now able to do. I'm just 76. I have always had this place, where I was born, for my home, maybe the reason I'm proud of St. Francis National Forest. I've been thru Ozark - Ouachita mountains several times. It is a beautiful place.

I'm not discarding these books, I will use them a lot. I am a concerned citizen trying to take care of forests and wildlife. My land joins the St. Francis Nat. Forest. I want to do what I can for you as I love the forest and resources of it (them).

Sincerely,
Mary Que Hannon

10-18-89

Analysis:

I just want to comment on your "unrelated comments".

These things I guess happens everywhere. They really worry people who care. For instance, just yesterday, October 15, 1989 a couple had been out in St. Francis national forest digging up ferns and trees, especially trees they had never seen one like. They dig here all the time. Our dogwood trees go to town. My living here joining the forest I see and here a lot. People ask what did they do to or what happened to the dogwood trees and red bud trees? It was a pleasure to make this drive - they were so pretty. Now, we don't see them." my reply: they went to town.

Littering, that's common. Through out this area. All comments you mention are. Especially the illegal activities. (just heard the Federal Government caught several killing deer over a food plot ^{law} the St. Francis National Forest. (more power to them).

In volume II ^{page 42} you give good information on Human Exposure Analysis. You have described my situation and others in this area.

and other Arkansas people who live in miles
of a field.

As you know, I live on the edge of St. Francis
National Forest on my west and St. Francis River
on the east. All gardens for ten miles were
damaged with Aerial spraying. First, we thought
it was a disease. Brown spots on leaves, some made
holes in the leaves. The field being sprayed was across
on the other side of the St. Francis River.

I've been in the hospital. One doctor told me I had some
herbicides. I was over medicated and they had too ~~del~~
about that. One man was in the hospital they thought
pneumonia but test were ran until they found it to
be herbicides. No trees, flowers and garden ~~was~~ killed.

In some areas people have gone to making the
pilot pay for their gardens. Naturally, I appreciate
your information very much.

In my case, the pilot would fly across the
St. Francis River, woods and Bayfield ~~field~~ ^{field} County Road
to turn around to go back to the field and there would
be wind blowing. My friend's garden was ~~in~~ ^{along}
to a field. The pilot would turn around over her
garden, yard and house. My dogs are sick, too.

III

I appreciate the material on the Red-cockaded woodpecker. I had ^{none} five before spraying took. I haven't seen a ~~one~~ since, I'm interested in all the birds. Since the herbicides were sprayed I haven't seen a mocking bird. Most all birds are gone. Don't even see sparrows. No tortoise and only one dry land tarpan and that was October 10, 1987.

A man from the Game and Fish Commission told me the crayfish and frogs were all gone. We had lost a lot of fish, birds and some of our wildlife. We have fewer rats, mice and skunks since the herbicides were sprayed. We have less beneficial insects, also.

Don't get me wrong. I don't want to see all herbicides taken away from the people just understating people to apply them. When aerial spraying is used have machinery equipment that will go straight down instead of spraying. I understand California has equipment to go straight down instead of spraying.

You have a lot of good information.

Response to Comments in Letter No. 273

From: Mary Lue Hannon

Comment No.

Response

- 1 Aerial application of herbicides is not permitted on the Ouachita or Ozark National Forests under the preferred alternative. Here it is permitted, however, mitigation measure number 8 on page II-54 of the Draft EIS responds directly to this concern.

Alternatives:

This herbicide question is about to become a nasty ~~work~~ in this area. The ~~pitfalls~~ are the ones who are getting the blame for being in such a hurry to get to another field.

I don't know of the St. Francis National Forest using any herbicides. I had two areas rent one time for a garden and they were very strict about the use of herbicides; yes, it's the farmers. We're not against all chemical - herbicides - but this aerial application! Yes, I'm sure the worker exposure is reduced by this method. It would be fine if the ~~pitfall~~ would confine his work to that field; but they don't do it.

A. Doesn't give much attention to any thing. This reminds me of when I was a kid. Of course, at that time livestock were allowed to range in the woodlands. This kept a lot of veneer out. Yes, we had ~~good~~ ^{grown} woods - timber.

B. Treatments are ~~needed~~ ^{given} when critically needed at low intensity. In some areas

This might be good. B does a good protecting the water quality about as much as A does.

C. Here a lot of manual treatments are done. Herbicides are applied by hand and machines is dominating. Training is provided for manual work with protective equipment which is very good.

D. In this alternative biological (pine release) is increased. Areas are treated with prescribed fire increased with no herbicides used.

With good help and timing prescribed fire is good to reduce erosion, reduce soil damage and sediment loads. I have found that at times vegetation grows there before it will on unburned soil. (I like it if I have good help). Manual treatments are used here in all sorts of ways.

E. Here, biological methods are not used. Mechanical methods decreased and manual, herbicides and prescribed fires are increased. This provide a variety of habitats and associated wildlife; this too has the most balance mix of low to moderate disturbance tools.

3.

F. To me this would be the best or I prefer it more. Here, the use of manual methods and prescribed fire increase, and use of herbicides and mechanical methods are decreased which I think helps the trees to certain plants and animals as well as the soil, water and humans. This, I think would be a great improvement for timber stands and wildlife habitat.

Herbicides decrease almost totally in site preparations, evenage timber stand improvement and I know it will increase the wildlife improvement from what I saw this 1989 year alone.

Major use of herbicides are not applied by aerial, but other methods when site conditions require them.

Major uses of mechanical are roadside maintenance and evenage site preparation.

Major uses for prescribed fire are wildlife habitat improvement, hazardous fuel reduction, and site preparation.

Major use of manual are timber stand improvement, ~~site~~ site preparation and wildlife habitat.

2

Your preference for alternative F has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

G
 Herbicides and mechanical methods are increased and manual method and prescribed fire are decreased.

Herbicide is not applied within 500 horizontal feet of an open road or a designated trail. The area is clearly marked before treatment so applicators can easily see and avoid this.

Active herbicides is not applied within 50 feet of the drip line of non-target vegetation (den trees, hardwood inclusions, adjacent stands). Pruning is permissible. I'm glad to see den trees mentioned. My father's blood would boil when he heard of a den tree being destroyed.

Swish farmers were people who takes cautions on using herbicides as you are, you even watch out for lakes and swamps lands. We have a lot of these here. Seemingly, the point - one applying the herbicides - for the farmer doesn't even know a river. I'm not criticizing just telling of acts. Just wish people applying herbicides for farmer were as careful as the ones working for the National Forest Service.

I am amazed that biological methods is omitted because of destruction from young trees.

5.

growth when deer run at large and
destroy seedlings. Yes, I had a ~~lot~~ ^{lot} of
tree-fall one time and deer got in there and
ate them all off. (Yes, I like cows, no ~~cows~~ ^{cows in my field})

H. Here emphasis on herbicides and prescribed
fire increases markedly from present,
seemingly, vegetation management is done to
achieve maximum vegetation control,

P.S. I did not make a rough copy and
copy it over for fear I would not get it in
on time. Thanks for bearing with
me and hope I haven't just taken up
your time.

m.k.H.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Mary First Lo Last Harrison (Organization)
Route 4, Box 68
 Street Marietta, Ga. Zip Code 30060
 City State

Tear at perforation

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though However you decide to respond, please help us by making specific and meaningful comments Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: LC50 and LD50 are inadequate as sole indicators of risk to humans and wildlife because they consider only acute toxicity. Long term low level toxicity studies have not been done to predict the cumulative, synergistic, body burden effects.

Why? Because no studies of these synergistic and cumulative effects have been done it is irresponsible and inhumane to continue using chemicals which contain 2,4-D, one of the most of which is dioxin. Dioxin is too deadly and can contaminate ground water through burning.

Comments on Alternatives: I fully support Newton Co. Wildlife Assoc.'s modified alternative D with reduced total acres of vegetation management the use of herbicide and fire methods on a low intensity basis only, with primary emphasis on manual methods and an integrated pest management approach leaving Why? towards A no action.

1. Fire and mechanical methods are unacceptable on a large scale because of the threats they pose to the soil ecology and to wildlife as well as water quality threats.

Other: 2. Manual methods would result in highest rate of employment in an area with serious unemployment problems. Research indicates increased refuse to local economies would be over 40% more than with Why? use of herbicides.

Alternative D will pose the least threat to water, soil, wildlife and human life while actually providing a more healthful employment opportunity for more people. I urge you to choose plan D.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Ruth Weinstkin McShane (Ark. Brews) First MI Last (Organization) H.C. 79 Box 264 Street Marshall AR. 72650 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 274

From: Ruth Weinstkin McShane

Comment No.

Response

1 LD50 and LC50 are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.

2 2.4-D has not been evaluated by this EIS, and is not being proposed for use.

3 Your preference for alternative A or Modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

4 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

5 Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on page II-38 through II-59 are designed to cause the least environmental impact.

6

Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: Until long term studies have been completed to predict long term effects, LC 50 and LD 50 are inadequate indicators of risks to humans and wildlife.

2 Why? Because a complete scientific study is only fair to the humans and wildlife in the areas proposed. A thorough study has shown people to be very deadly to all living things + control ground water.

3 Comments on Alternatives: To meet the N.C.W.A. modified alternative D with emphasis on manual methods + integrated pest management is a step in the right direction.

4 Why? Manual methods create more jobs in areas that desperately need them. Local economies would benefit to the tune of \$40/acre more than with herbicide use.

5 Other: Alternative D is the lowest impact on the environment with the most economic gain to the local area. Until more exhaustive studies are done this step to me seems the most logical + least harmful to all of us.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
JOSEPH PATRICK McSHANE
H.C. 74 Box 264
MARIESHALL, ARK. 72650
Ark. State Zip Code

Tear at perforation

Response to Comments in Letter No. 275

From: Joseph Patrick McShane

Response

Comment No.

1 LD50 and LC50 are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.

2 None of the data we evaluated indicated possible dioxin contamination in any of the herbicides being proposed for use.

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

3 Your preference for alternative Modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

4 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

5 Alternative B has been suggested by some as the lowest impact (environmentally preferable) alternative.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why? Why exclude any chemicals that has been registered for forest use?

Why? Why News do "Public Domain" without fact.

Comments on Alternatives:

1 Better Alternative "A"

Why? Best suited to existing and future vegetative management needs.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Street City State Zip Code
Travis L. Lane - Woodman
P.O. Box 200
Woodman, Mo. 64092

Tear at perforation

Response to Comments in Letter No. 276

From: Travis L. Lane

Comment No.

Response

1

Herbicides which were evaluated in the Risk Assessment but not proposed for use were excluded for a variety of reasons. Either they were not currently being used and had no proposed future use or the scientific analysis indicated some environmental effects which approached thresholds we had established as the break between acceptable and unacceptable.

2

Your preference for alternative H was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

~~Comments on Scientific Analysis:~~ I AM A LIFELONG RESIDENT OF LEWA AND AS SUCH HAVE SOME FAMILIARITY WITH THE ENVIRONMENTAL HAZARDS ASSOCIATED WITH THE LONG TERM USE OF CHEMICALS ON OUR CROPLAND, PARTICULARLY THE CONTAMINATION OF OUR GROUND WATER SUPPLIES. WHY? I VISIT THE BISTON/OZARK MOUNTAINS OF NORTHEAST ARKANSAS ONCE OR TWICE A YEAR, AND AM ALWAYS AWED BY THE BEAUTY AND SERENITY OF THE FOREST.

~~Comments on Alternatives:~~

Now I UNDERSTAND THE UNITED STATES FOREST SERVICE PLANS TO CONTINUE USING HERBICIDES FOR TIMBER MANAGEMENT PURPOSES IN THAT AREA AND TO THIS I STRONGLY OBJECT, IN WHY? MY OPINION, NOT ENOUGH IS KNOWN ABOUT THE LONG TERM IMPACT ON THE FLORA AND FAUNA OF THE FOREST TO RISK THE USE OF CHEMICALS AND THEREFORE OTHER METHODS SHOULD BE UTILIZED INSTEAD.

IN ADDITION, I THINK IT IS TIME FOR THE TAX SUPPORTED U.S.F.S. TO QUIT RANDBERING TO WHY? THE TIMBER INTERESTS AND REMEMBER THAT THE AGENCY IS CHARGED WITH STewardSHIP OF THE LAND ON BEHALF OF ALL OF US 250 MILLION AMERICANS.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Herbert V. Alexander
 First MI Last (Organization)
RD #3 16791 230TH ST.
 Street
MASSON CITY, IA 50461
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 277

From: Herbert V. Alexander

Comment No.

Response

1 Croplands and forest lands are managed at different intensities, so it is inappropriate to assume each is affected similarly. Page IV-105 of the Draft EIS briefly describes some differences. Potential effects on water are described in appendix C and in part G of chapter IV. Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk. long mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced we require.

2 Appendix A contains a Risk Assessment which deals with unknown effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I am impressed with the wide-reaching scope and detail of your analyses. As a layman, unfortunately, I am in no position to corroborate or refute them.

1 Comments on Alternatives: The Alternative I would prefer is not listed. It would probably be somewhere between "A" and "B". In my opinion, more than enough clearcutting has already been done, and I would put a stop Why? to it, without thereby completely ceasing some of the management techniques listed in "B".

2 I am opposed to "even-aged" management for the following reasons, among others:

Other: (1) The ugly landscape produced never recovers its original beauty, lessening its appeal to tourists and natives.
 Why? (2) mast and den trees are lost and many species of wildlife suffer.

(3) Streams are silted up more than before.
 (4) Massive use of herbicides poisons ground water (cont.)

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Tear at perforation

Name: Robert Pearson Busch
 First MI Last (Organization)
HCX 33, Box 82,
 Street
Elkins AR 72727
 City State Zip Code

Response to Comments in Letter No. 27B

From: Robert Pearson Busch

Comment No.

Response

- 1 Your preference for an alternative between A and B was included in content analysis of all comments received.
- 2 As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and as such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

(cont.)

and streams.

(5) Increased erosion of mountain slopes and loss of top soil.

(In one of their propaganda brochures promoting clearcutting, a huge private timber company describes the terrain of the Cuachita Mountains as "somewhat rough". This is a blatant understatement.)

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1
Comments on Scientific Analysis: I am opposed to the use of any vegetation management methods on T.C.s. plants and wildlife habitat. I am opposed to intensive mechanical site preparation.

Why? If left alone these areas will have a more stable environment. The negative effects on the soil and water quality are well known and severe enough to warrant a complete elimination of this practice.

Comments on Alternatives:

2
 I support the NWSA modified alternative D and an integrated pest management approach leaning towards alternative A, no action.

Why? It reduces total acres of vegetation management with the use of mechanical - give methods on 60% intensity basis only.

Other:

3
 Why? I do not believe the risks are acceptable for herbicide use and do not believe public lands should be managed with...

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
 Alice G Miller
 Street MI Box 137
 City DENVER, CO State Zp Code 71953

Tear at perforation

Response to Comments in Letter No. 279

From: Alice G. Miller

Comment No.

Response

- 1 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure number 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.
- 2 Your preference for alternative similar to D but with elements of A was included in content analysis of all comments received. Alternatives A and B each reduce the number of acres treated and alternatives A and D use no herbicides. Generally, the effect of reducing acres treated is a lowering of some planned output.
- 3 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was unacceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

1 My husband & I protest the U.S.F.S. ¹⁰⁻²⁶⁻⁸⁹ use of herbicides on the forests of North West Arkansas. Logskades & Redbuds have a hard enough time to survive & what will the deer & squirrel & other wild life do without the nuts from Oak & Hickory? My husband & I have seen the mighty Oak & Hickory standing stark & dead back in the woods - not just one here & there but tree after tree - no oak of nature this...

2 The beauty of maple & other hard woods, the Logskades & Redbuds are a unique part of the Ozark & people from all over the United States come to see our Ozarks. Now U.S.F.S. wants to turn it all green - plant pines - sell them to Japan all for the almighty dollar. These beautiful trees don't grow just anywhere - they grow here! You should leave nature alone... Only must you constantly interfere & ruin Nature! It's happening in other countries, but U.S.F.S. is once

Response to Comments in Letter No. 280

From: Robert & Betty Noss

Comment No.

Response

1 Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Toxic effects on wildlife, as well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others.

2 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

② again reminds the Beauty & Health
of forest & humans — & even only
the almighty deer —

The the little people on the
mounts suffer as well as the wild-
life — poisoning us, our water,
or land —

3 The need of herbicides is unacceptably
high & we feel justified in protesting
the use of herbicides on our forests
in any way, shape or form.
Thank you

W. J. H. S.
Bettysann Road
HC 72 Box 42
W. J. H. S., Ind. 732657-

3 Your comment that risks in the vegetation management programs proposed
in the Draft EIS are unacceptably high was included in the content
analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I believe that the Scientific Analysis of the Forest Plan has been thorough. I give those credit who worked on it. I support alternative H.

Why? I have been working on the forest in Arkansas for 35 years and believe that all reasonable tasks should be available to anyone with what is needed. I am not afraid of other people or question any one's Comments on Alternatives:

We can have beautiful forests forever if we make our common sense. I don't think, under west people think our present forest are good, like that Why? appeared and created it. It took hard work by a large group of dedicated people with the forest, goal on mind. All foresters hate to cut trees, but they, as we are, are not immortal.

Other:
Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Richard F. Taylor
 Name: First MI Last (Organization)
 430 Pulaski Dr
 Street
 Camden Ark 71701
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 281

From: Richard F. Taylor

Comment No.

Response

1 The Interdisciplinary Team appreciates your evaluation that the analysis was thorough. Your preference for alternative H was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though However you decide to respond, please help us by making specific and meaningful comments Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns

Comments on Scientific Analysis: I am against the use of chemical herbicides on the U.S. Forest Service lands

Why? Because I find that the risk is unacceptable and further feel that money spent on chemicals could be better put to use by hiring locals to do the needed thinning by hand

There needs to be an alternative between A and D that proposes to spend around \$500 per acre or treat less Acres why? Per year than the current proposal

The Forest Service spends far too much money trying to manage mainly for timber and they need to put more energy and \$ into the other aspects of multiple use.

Why? The fact that the Forest Service did not address the issue of method of harvest as one way to manage over

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside a drop in the mail (no postage necessary).

Name: First MI Last Organization: George Imrie 322 B Watson St Fayetteville Ark 72656

Tear at perforation

Response to Comments in Letter No. 282

From: George Imrie

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured and properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
2 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
3 Your preference for alternative A or D has been included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatment has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
4 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

Vegetation is inexcusable. ~~and~~ the time and money spent to produce this DEIS would have gone alot further towards really understanding vegetation management (and why the Forest Service is forced into using so much of it) if rather than trying to convince the public that these herbicides are "safe" the Study Team should have focused their Attention on finding some true Alternatives to all this expensive "Vegetation Management".

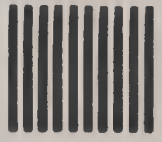
6

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DRAFT 00
Attention Rm. 362S

l11111111111111111111

5 As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and as such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

6

The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though However you decide to respond, please help us by making specific and meaningful comments Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Any methods used in applying herbicides to kill vegetation all have the same effect - you are using chemicals fully and in total designed for nature's own methods of controlling the forest. Why not leave nature to her own means? Why? Any time you apply any chemicals to kill plant life it is dangerous - we used to have an almost danger free water supply - New chemicals from man made "cures" are slowly but surely polluting our water, and thereby our lives. Perfect controls are Comments on Alternatives: better than "acceptable under" - DON'T USE HERBICIDES!

Alternative A is obviously the best as far as I can see - do nothing - and we will remain a natural state - If some chance years of nature has given us what we have now - why do we have to attempt to make it better? If we must - then do so by alternative D - but only when and where it is absolutely necessary. Other wise why? let nature take its course - we will all be safer.

I do not believe that man's attempts at creating a better forest will hold true in the long run. So much is at stake here that it is incredible to think of using herbicides in so many of our forests.

One: We derive our drinking water from a 300 foot well, and so far we have good water. Some areas around us have already had their water contaminated by farm chemicals that have been used in the past. The acceptable levels of chemicals in the water we have in a direct result of the application of chemicals over a long span of time. That should tell us that these chemicals do not "dilute" or disappear - they are there all the time - only noticed when toxic levels are achieved. Please discontinue herbicide use now - not when (use additional sheets as necessary) we cannot use our wells anymore!

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization) JIM W SHARPE
Address: ROUTE 4, Box 186
City State Zip Code HUNTSVILLE, AR 72740

Tear at perforation

Response to Comments in Letter No. 283

From: Jim H. Sharpe

Comment No. Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk in long mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
3 Your preference for alternative A has been included in the content analysis of all comments received. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
4 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.
5 None of our evaluated herbicides should exceed concentrations of 0.050 ppm in buffered streams or 0.025 ppm in even shallow ground water when applied at the low rates and frequencies we require (Draft EIS pages II-10, II-53, and IV-98 to IV-106). We nonetheless recognize the need for more research in this area (Draft EIS page IV-147-148).

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

There is not enough data concerning the environmental hazards to humans and of wildlife seems to be a one-sided survey. Why? The public needs to know all aspects of the management program. Because the results will directly affect everyone.

Comments on Alternatives:

The only alternative I desire is no management at all.

Why? Because the dogwoods, redbud, maple, Hickory & oak have their own place in our ecosystem and should not be destroyed to save one kind of tree.

Other:



To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Martha M Last Jenkins (Organization)
103 N East
Street DAR House Ave 72660
City State Zip Code

Response to Comments in Letter No. 284

From: Martha M. Jenkins

Comment No.

Response

1 In this document we have compiled with the Council on Environmental Quality regulations on incomplete and unavailable information (1502.22). There have been recent changes about how to evaluate incomplete or unavailable data. The Council on Environmental Quality issued regulations in November 1978 (40 CFR 1502.22) which required that a worst case analysis be performed to estimate risk of relevant missing information. In 1986, they modified this provision to require analysis of "... reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) using the 1986 requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are similar to the worst case analyses required under the earlier regulations. Thus, we have attempted to address both sets of regulations in our analysis.

Use of risk assessments is scientifically accepted, and ours has undergone extensive scientific review (Draft EIS, pages VI-3-4 and V-7-8). Modeling is used in the Risk Assessment to project incomplete or unavailable data. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, we have actually magnified the estimate of risk far beyond what is probable in the field. Where meaningful comparisons could be made between available data, quantitative analysis was done. Where necessary, analogy was used to develop these estimates. Otherwise, qualitative estimates were made. The Risk Assessment looks at a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures under each alternative. The effects of those exposures are evaluated based on what is known about the toxicity of each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community. The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 633. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were made. Acute toxicity testing on the full formulations is part of the available data on each herbicide. The chronic toxicity of the inert ingredients in each formulation is evaluated for those inert ingredients considered by EPA to pose a risk of health effects (Lists 1 or 2).

2 Alternative A is the no action alternative. Your preference for a "do nothing" alternative was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

"acceptable list" is not acceptable to me + my grand kids

Why?

Comments on Alternatives:

I saw a special part of thing on AETN about goats. Now that is accepted!

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)

1610 Foxhollow Rd

Street

Boyettsville Pa 15701

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 285

From: Ruth G. Collier

Comment No.

Response

1

Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was unacceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

2

Grazing as a biological treatment method was evaluated in the Draft EIS (pages II-37, II-38, IV-57 through IV-59, IV-81, IV-84, IV-96, IV-97, and IV-109). The use of goats may be appropriate in certain situations where all vegetation is to be controlled and where desirable plants cannot be overgrazed.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I am opposed to any future herbicide use by the USFS for vegetation management because 1) To many unknown factors in the human risk & wildlife risk for now & future generations. 2) unknowns, some they not recognize the scientific analysis that they have to take into account & then they see symptoms. Why? The data gaps do not & present practices of management that put our earth in grave danger of becoming barren, toxic, non-productive, eroded, sterile that will fill in the unknown gaps. Comments on Alternatives: too late. (now in progress)

I support, the NWA modified Alternative D with reduced total area of vegetation management; the use of mechanical & fire methods on a low intensity basis only. Why? Actually I'm against any destruction of the earth. Nature has always kept the balance. Best made plans by man have created ill that our earth & our life as we now know can not with stand - daily events tell of our fragile condition.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: G. L. Guidry
First MI Last (Organization)
P.O. Box 501
Sired: Springfield, VA 22082
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 286

From: G. L. Guidry

Comment No. Response

1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations, 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

2 Your preference for alternative similar to D but with elements of A was included in content analysis of all comments received. Alternatives A and B each reduce the numbers of acres treated and alternatives A and D use no herbicides. Generally, the effect of reducing acres treated is a lowering of some planned output.

Tear at perforation

RESPONSE FORM

To Vegetative Management in the Ozark/Carolina Mts.

We're providing this form to make it convenient for you to respond. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I support the end of the use of Herbicides in our National Forest.

Why? Because such chemicals must be considered guilty until proven innocent. We must take steps to stop the poisoning now so we've win be a later.

Comments on Alternatives: low impact manual vegetation management using local labor and/or prison crews makes good sense to me.

Why? It's safer, it's good for the humans who do the work & it will be gentle on our B/G mamma.

Let us the people be heard. Let us Government set the example to the world for cleaning up the environment. Do it now to have forest to manage in the future. The clock is ticking.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Tina Marie Wilcox, Street: Rt 2 Box 263, City: Mt. Home, AR, State: AR, Zip Code: 72653

Tear at perforation

Response to Comments in Letter No. 287 From: Tina Marie Wilcox

Response

Comment No.

1 The Draft EIS presents data which suggests manual methods are the least safe method to use. Manual methods do appear to be the least intrusive of all methods evaluated. They also have other effects which must be considered such as effectiveness (pages IV-59 through IV-62 of the Draft EIS) and risk of injury (pages IV-25 through IV-29 of the Draft EIS). However, in some cases manual methods are the most desirable overall and are used. The preferred alternative on page II-12 of the Draft EIS estimates that over 10,000 acres will be treated using manual methods.

Open R/ st. Francis and Quachita Nat'l Forests.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: a national forest should be just that, a forest. It should not mirror the image of corporate plantations. If anything, it should be just the opposite. Trees planted back should be of the species that is dominant for the specific area, and that is the hardwoods. Herbicide applications should not be allowed to kill hardwoods.

Comments on Alternatives:

The percentage of hardwood acreage in the U.S. is declining rapidly and since why corporate forest landowners will not re-plant to hardwoods, it should be the primary obligation of the U.S. Forest Service to replant hardwoods. The corporate forest landowners do not have time to wait for hardwoods to grow, but what why is 100 years to a national forest. U.S. Forest Service stand up for your self - don't be a mirror image of a corporate forest (use additional sheets as necessary)

To return, this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Listen to the voice of the people, not the jungling change of corporate foresters.

Name: First M Last (Organization)

Street

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 288

From: No signature or address

Comment No.

Response

1 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

2 Your opposition to use of herbicides was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

as a member of the N.C.W.A.
 a nonprofit community organization
 Why? incorporated in 1980 to increase
 public awareness of critical
 environmental issues. We believe that
 Comments on Alternatives that
 the spraying or use of any herbicides in our
 national forests or any forest areas on
 Why? unacceptable to humans and all the
 wildlife or any environment would be
 Other: Crazy and stupid. Let mother
 nature take its course and do what
 Why? it want to do. (O.K.) don't do
 nothing stupid

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name First Bobby W. WEST
 Last (Organization) → N.C.W.A.
 M.I. RT 1 Box 109
 Street SEACy ARK. 72143

NEWTON COUNTY WILDLIFE ASSOCIATION
 1000 N. W. 10th St.
 Newton, NC 28658

Response to Comments in Letter No. 289

From: Bobby W. West

Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments Scientific Analysis: I don't think there is enough analysis.

Why? Because the herbicide risk hasn't been thoroughly investigated

Comments on Alternatives: I like alternative A the best. Second best is the one without use of herbicides

Why? Because not enough is known about possible effects of herbicides. ~~My~~ my family has a tendency to be sensitive to chemicals. I don't trust the chemicals to be harmless.

Other: I'm also concerned about the loss of sensitive species and the loss of diversity in the forest. And I'm concerned about the Greenhouse effect and whether we should cut any trees down anywhere.

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary). (use additional sheets as necessary)

Name: First M. Last M. MacLoch
Street HCK Box 120
City Parkton Ar. State Zip Code 92066

Tear at perforation

Response to Comments in Letter No. 290

From: M. M. MacLoch

Comment No.

Response

- 1 Your preferences for either alternative A or for alternative D which use no herbicides were included in content analysis of all comments received.
- 2 Appendix A contains a Risk Assessment which deals with unknown effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22.
None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 I oppose use of Herbicides, not only on National Forests but also on private lands. I discontinued use on my farm many years ago. Why? Air and ground water pollution, noh for outweigh any immediate "benefits".

Comments on Alternatives:

2 I don't favor destruction of Natural Hardwood stands in the Ozarks by pine, a tree of monotony, not diversity. Why? I favor improvement of Hardwood stands by manual means, offering employ ment as well as discriminate other management. Any idiot can clear-cut, Bull Doze or Burn, and many do. ~~Why~~ It is takes intelligence to MANAGE and improve current priceless hardwood stands. Destroy in haste, repent at leisure.

(use additional sheets as necessary)

To return, this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Marc A. Williams - (now)
 Name First MI Last (Organization)
 RT. 1 BOX 151
 Street
 HARRISON, AR 72601
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 291

From: Marc A. Williams

Comment No.

Response

- 1 Potential effects of water are described in appendix C and in part G of chapter IV of the Draft EIS. Potential effects on air quality are described in part H of chapter IV of the Draft EIS. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 2 Choice of treatment method has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program (see minor differences noted in table II-8 on page II-70 of the Draft EIS). What would be affected is the Forest Service's ability to fulfill current Congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to achieve the desired effect. This results in less effective management and increased costs.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

In Newton county there not - so far as I know - any authorized dumps or landfills. I understand this is because the limestone subsurface allows everything to leach down into

Comments on Alternatives: the water table. I cannot, therefore, agree with the application of any chemical substance that has potential to be harmful.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Charles McAllister
P.O. Box 64
Street:
City: Healy, Arkansas
State:
Zip Code: 72640

Tear at perforation

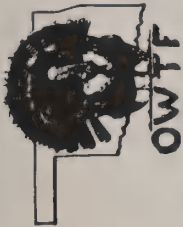
Response to Comments in Letter No. 292

From: Charles McAllister

Comment No.

Response

- 1 Potential effects on groundwater are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
2 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.



OKLAHOMA WILD TURKEY FEDERATION
State Chapter of the National Wild Turkey Federation

P. O. Box 3486, Edmond, Oklahoma 73083

October 30, 1989

Steve McCorquodale, Team Leader
 Vegetation Management EIS Team
 USDA Forest Service
 1720 Peachtree Rd., N.W.
 Atlanta, GA 30367

RE: Comments on Vegetation Management
 Ozark/Ouachita Mountains

Dear Mr. McCorquodale:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for Vegetation Management on the Ozark/Ouachita National Forests.

As president of the 1,000 member Oklahoma State Chapter of the National Wild Turkey Federation, I would like to put our organization on record as being in support of Alternative D, no herbicide use.

The opportunity for contamination of streams or groundwater and destruction of non-target plant species is too great when acceptable alternatives are available.

Alternative D should be modified to decrease the acres of site preparation for evenage timber areas by mechanical methods.

Sincerely,

Bob
 Bob Dyer

Response to Comments in Letter No. 299

From: Bob Dyer, OK Wild Turkey Federation

Comment No.

Response

- 1 Your preference for alternative D was included in content analysis of all comments received.
 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.
 Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in even-age and unevenage site preparation, even-age timber stand improvement, and Forest Service road corridor maintenance.
- 2 Potential effects on water are discussed in appendix C and on pages IV-97 through IV-105 of the Draft EIS. Possible effects on non-targets occur regardless of method used. Herbicide effects are substantially reduced through mitigation measures in chapter II and through emphasis of selective treatments (see pages II-6 and II-12 for comparisons).
- 3 Alternative D eliminates the use of herbicides as a site preparation method. Acres shown on page II-6 of the Draft EIS currently treated with herbicides are thus spread between other methods. While some flexibility exists within alternative D to reduce mechanical site preparation, our analysis of existing conditions predicts acreages as shown.

October 28, 1989

Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

RE: Comments on Vegetation Management
Ozark/Quachita Mountains

Dear Mr. McCorquodale:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for Vegetation Management on the Ozark/Quachita National Forests.

As a private Oklahoma citizen who utilizes NF lands approximately 30 days per year for hunting, fishing and camping, I would like to go on record as being in support of Alternative D with minor modifications.


While vegetation management does not deal with timber harvest methods, it is indeed difficult to address this subject without reference to timber management.

Opposition to all alternatives utilizing herbicides is based on two important points. The FS can not guarantee complete control of herbicides once in the hands of field workers and contractors. The opportunity for contamination of streams or groundwater and destruction of non-target plant species is always present.

Opening produced by evenaged timber harvest methods have been touted by the FS as wildlife beneficial. Herbicide use in these areas negate any benefit by removing plant diversity and species used most by wildlife. This practice promotes the conversion to pine monocultures the public has already made clear they do not want.

Modifications to Alternative D should include a reduction in acres for site preparation of evenage timber areas by mechanical methods. Increased use of burning is encouraged but must be accomplished early enough to insure ground nesting species, specifically wild turkeys are not affected.

Sincerely,



David C. Strouse
Rt. 1 Box 292A
Shawnee, OK 74801

Response to Comments in Letter No. 300

From: David C. Strouse

Comment No.	Response
1	Your preference for a slightly modified alternative D was included in content analysis of all comments received.
2	Mitigation measures 9-18 on pages II-55 and II-56 are required to assure protection and supervision of workers applying herbicides. We feel these measures will permit application of the selected herbicides with acceptable levels of risk. By applying herbicides at low rates (Draft EIS page II-53) and using buffers (Draft EIS page II-57 and II-58), surface and ground water will be protected very well (Draft EIS pages IV-97 to IV-106). Herbicides used on national forests will not build up in the environment; use is restricted to herbicides which have half-lives of 2 months or less and are essentially decomposed in 2 to 12 months (long before any subsequent application).
3	Timber harvest issues are outside the scope of this EIS. They are discussed in Forest Land and Resource Management Plans. The Draft EIS addresses elements of the diversity issue several places in chapter IV under the subheadings species composition, successional patterns, and habitat alteration.
4	Please see our response to comment 3 in letter 299.



ARKANSAS
HISTORIC
PRESERVATION
PROGRAM

October 31, 1989

Mr. John E. Alcock
Regional Forester
USDA Forest Service
Southern Region
1720 Peachtree Rd., N.W.
Atlanta, Georgia 30367

RE: Multi County - General
Environmental Review - USFS
Draft Environmental Impact
Statement, Vegetation Management
in the Ozark/Ouachita Mountains

Dear Mr. Alcock:

1 My staff has reviewed the above referenced draft environmental impact statement, and has determined that Alternative A is the preferred course of action for the protection of cultural resources. While potential impacts to historic properties were addressed in all of the alternatives, the identification and evaluation procedures discussed will not put the Forest Service in compliance with Section 106 of the National Historic Preservation Act. We therefore recommend that your agency follow the regulations found in 36CFR Part 800 if a selection other than Alternative A is implemented.

2 If you have any questions, please contact George McCluskey of my staff at (501) 371-2763.

Sincerely,

Cathy Buford
Cathy Buford

State Historic Preservation Officer

cc: Advisory Council on Historic Preservation
State Archeologist

Suite 200 • Heritage Center • 225 East Markham • Little Rock, Arkansas 72201 • Phone (501) 371-2763
A Division of the Department of Arkansas Heritage



Response to Comments in Letter No. 301

From: Cathy Buford, AR Historic Preservation Program

Comment No.

Response

- 1 Your preference for alternative A has been included in content analysis of all comments received. Alternative A does afford the most protection for cultural resources and historic properties, except that risk of damage from wildfire is still evident (see table II-7 on pages II-68 and II-69 of the Draft EIS).
- 2 We are unaware of lack of compliance with section 106 of the National Historic Preservation Act. We believe we have achieved compliance through mitigation measures 12 and 13 on pages II-42 and II-43 of the Draft EIS. Specifically, mitigation number 12 is not tied to NEPA thresholds as indicated by 36 CFR 800.9, referrals are done and review is accomplished. As this EIS does not make site-specific proposals, it is not necessary to complete referrals to the Advisory Council on Historic Preservation beyond that documented on page VI-7 of the Draft EIS.

Ms. Linda Garnett
10 Gaffield
Quarten, TX, 76247

VMDEIS Comments
USDA Forest Service
1720 Peachtree Road, NW.
Atlanta, Ga. 30367

I am opposed to any future herbicidal use by the USFS for Vegetation Management because:

It is my belief that the risk is unacceptably high and ~~is~~ **is** justified in recommending that our public lands not be managed in this way.

I don't believe that enough research has been done to justify saying the use of herbicides is safe.

I am greatly concerned with the possible effects to human and animal life as a result of the herbicides concentrating in our groundwater.

I would prefer to have our forests managed through natural biological means.

Sincerely,
Ms. Linda Garnett

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2

Response to Comments in Letter No. 302

From: Linda Garnett

Comment No.

Response

1

Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk ■ long ■ mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced ■ we require.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

1 Dear Sir, I am opposed to the use of herbicides on National Forest lands for many reasons. Their adverse effects are not clearly known but in many instances people (and the number is growing) develop a sensitivity to even the tiniest exposure to toxic chemicals. What will be the accumulation of these poisons in our ground and water say 50 years from now? Is it worth the risk? These chemicals need to be stopped being manufactured and for an agency of the government, managing public lands to use these poisons is totally ludicrous.

2 I support the use of mechanical and selective cutting of trees, which would generate jobs. I also support the natural growth of the woods, that is mixed oaks, hickories, maples etc., and not pure pine. The forest should be managed with the future always in mind as we have a heavy responsibility to the Earth left to our children. I thank you for an opportunity to share my views.

3 Sincerely,
Margaret White
Ozone, Arkansas

From: Margaret White

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced. We require. Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.
- 2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 3 Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS. Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Staff work is exceptionally thorough in researching current literature as basis for this EIS on Vegetation Management. The data on herbicide use/effect are as exhaustive as anyone could wish, and knowledge gaps are fully explained. Vegetative management plans and their effect on wildlife habitat could perhaps be more detailed, but do provide a good basis for selecting alternatives.

Why?

On balance, all alternatives are well documented and thoroughly explained. Based on the information contained in Vol. I, I am fully convinced that Alternative F is the very best choice.

Comments on Alternatives:

The tables showing the effects of the various alternatives and well done and should be clear to anyone who makes a careful study of the document.

Alternative F is definitely the best choice.

Why?

The whole document, including the appendices, is very well done.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Austin F. Hamer

Name: First MI Last (Organization)

Rt. 1, Box 204

Street

Danville, AR 72833

City

State Zip Code

Tear at perforation

Response to Comments in Letter No. 304

From: Austin F. Hamer

Comment No.

Response

- 1 The Interdisciplinary Team appreciates your comment regarding thoroughness of the Draft EIS.
- 2 Your preference for alternative F was included in content analysis of all comments received.

Oct. 30, 1989

Vegetation Management EIS

1720 Peachtree Road NW

Atlanta, Ga 30367-9102

Ladies, and/or Gentlemen:

Even though I personally think that the Final decision will be Political, I want to comment that I feel that the use of herbicides should have no place in Vegetation Management in the Ouachita, or any National Forests except in extreme instances due to their impact on water quality of Springs, Streams, and Runoffs, which in turn, in time, will affect the quality of waters outside the Forests. I feel that

1

2

Response to Comments in Letter No. 305

From: Wayne Morris

Comment No.

Response

1

Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAT) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

305

herbicide use has already
affected water quality in and
around the Ouachita Forest
areas.

Very truly yours,

Wayne Morris

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments Alternatives:

I support alternative "H" because it gives the broadest range of site specific needs, its cost effective, and will fund the greatest timber production.

Earl Love

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Earl Last Love (Organization)
Street 205 S. Bridge St.
City Marquette State Mich. Zip Code 49710

Tear at perforation

Response to Comments in Letter No. 306

From: Earl Love

Comment No.

Response

1

Your preference for alternative H was included in content analysis, of all comments received. Alternatives C, D, E, F, and G allow enough timber production to meet output objectives of Forest Land and Resource Management Plans.

ROLFING

Member of ROLF INSTITUTE

NOAH S. KARRASCH

Oct 31, 1989



USDA Forest Service
1720 Peachtree Rd NW
Atlanta, GA 30367

I do not support the spraying of herbicides in US forest land anywhere, for any reason. I prefer my time in the woods to be without poison. I prefer to see wildlife unaffected by chemical poisons. I prefer to have pure drinking water issuing from the forest.

If the issue here is economic - the money saved by using poisons - please consider several factors.

1) I feel no loyalty to the chemical companies who lobby for this technique. 2) Economically local communities would be better off if trees were hired to clear undesirable vegetation. 3) Eventually the bill for cleaning up this mess that we have created in our short-sightedness will be astounding. I am highly dubious of government and chemical company standards of "safe levels".

Please stop the spraying of pesticides in forest land.

Sincerely,
Noah S. Karrasch

1531 E. Sunabine, Ste. 32 Springfield, MO 65804 Phone (417) 881-ROLF

© The word Rolfing is a Service Mark of The ROLF INSTITUTE of Structural Integration

Response to Comments in Letter No. 307

From: Noah S. Karrasch

Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

Toxic effects on wildlife, as well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

2 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

3 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

ELAINE C. POTTER
2063 S. KIMBROUGH
SPRINGFIELD, MO 65807
(417) 887-6851

USDA Forest Service
1720 Peachtree Rd. N.W.
Atlanta, GA 30367

OCT 31, 1989

Dear Sirs:

An response to your Draft on Vegetative Management in the Ozark/Ouachita Mountains, I urge you to abandon the use of herbicides. I enjoy my time in the forests and value our native plant life (particularly the wild medicinal herbs). Please employ the local workers to do manual work. Protect the water, protect the botanicals, the accumulative effects of herbicides is not worth it in the long run, is it?

Thanks for your thoughtful consideration.

E. Potter

Response to Comments in Letter No. 308

From: Elaine C. Potter

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 3 Potential entry of herbicides to surface and ground water is discussed in Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

Nov. 2, 1989

To: USDA Forest Service
1720 Peachtree Rd. NW
Atlanta GA

From: Jeanmarie Make
HCR 72 box 67
Parthenon AR 72666

Please reconsider the use of herbicides by the USFS for vegetation management in our area and every area. The USFS admits there are risks involved in herbicide use but considers them "acceptable." They may be acceptable to people who live in Atlanta or Texas or Washington. The risk of drinking herbicide contaminated water or breathing the smoke of contaminated wood is not acceptable to me, my family or friends who live in this area.

Your method of assessing risk in the NMD EIS lacks a great deal of data. I'm referring to the extensive data gaps in human and wildlife risk assessments, pp. IV-8+9, and III-66+67, Vol. I.

The DEIS itself points to the need for further research to fill these data gaps. p. IV-147, Vol. I. The DEIS lacks ^{the} set water quality stand ar^d. And, no studies have been done on the cumulative effects of herbicides over time, nor have the effects of burning treated wood been considered.

The herbicide last used by the USFS, 2,4-D, is now considered too toxic

Response to Comments in Letter No. 309

From: Jeanmarie Make

Comment No.

Response

1

Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.

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4

2 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.

We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.

3 Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:

(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.

4 2,4-D is not evaluated by this EIS and is not being proposed for use.

to expose humans and animals to. However, for many years it was used and the people of this area were, and still are feeling the adverse effects of the USFS mistake in using 2,4-D.

If 2,4-D had initially been better studied it would not have been used at all. For example, when 2,4-D is burned it forms dioxin the most toxic chemical known.

What happens when the currently proposed herbicides burn, perhaps when treated wood burns in a forest fire? You do not know. I urge you to do extensive further research into the health effects of the herbicides you plan to use and do not repeat the mistakes of the past.

However, I believe the best alternative is not to use chemical herbicides at all. Please include in your final DEIS a plan that calls for reduced total acres of VM, low intensity use of VM, mechanical and fire methods of VM, and primary use of manual methods of VM. This alternative would result in acceptable risks to the people and animals who live in and near the National Forest.

Sincerely,

Jeanmarie Mako
Jeanmarie Mako

5 Please refer to the discussions of "brown and burn" (Draft EIS pages IV-23 through IV-25) and of burning treated firewood in chapters 4 and 5 of the Risk Assessment (appendix A).

6 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

To: USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta GA 30367

From: David Blaisus
Box 6
Ponthenon AR 72666

I would like to comment on the U.S.E.S. VMDAIS in the Ozark/Dachita Mts. First, I am opposed to use of herbicides by the USES for vegetation management in my area or any area. The USES proposes that there are possible risks involved in such herbicide use which are "acceptable." I ask, acceptable to whom? And by what methods will acceptability be determined? To me, any herbicide use poses risks of ground and groundwater contamination, which could adversely effect my health and the health of my family. To me these risks are unacceptable. Furthermore, the VMDAIS uses a method of risk assessment which lacks an adequate data base.

I refer to extensive data gaps in the human and wildlife risk assessments, pp. 14-809, and III-66 & 67, Vol. I. The DEIS itself points to the need for further research to fill these data gaps, p. 14-147, 16. I believe that the DEIS

Response to Comments in Letter No. 310

From: David Blaisus

Comment No.

Response

- 1 Standards used to evaluate risks are documented in the DEIS for each of the environmental elements evaluated.
Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.
- 2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
- 3 Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

4 risk analysis of the likelihood of spills is over conservative, as evidenced by documented mishandling and spilling of herbicides used in this area in the spring of 1985, and observed and photographed by members of the NCA. Obviously, the FS does not have the manpower to monitor every crew using herbicides in the national forest. The chemical companies which produce the herbicides own any responsibility. The NCA does not assess final responsibility for unforeseen adverse impacts, but the people living in the area will feel the quick effect. The DEIS lacks ^{proper} standards for most herbicides use and lacks adequate data for risk assessment for most herbicides proposed for use. Also, no studies have been done on cumulative effects of herbicides, or the results of burning treated wood.

5 I am opposed to use of ^{any} vegetation management of threatened ^{species} endangered, or sensitive plants and wildlife habitats because ^{these} areas need a stable environment. I urge the FS to consider integrated pest management as an alternative. I urge the FS to include in the DEIS an alternative which ~~is~~ calls for reduced total acres of VM, the use of mechanical and fire methods on low intensity basis only, and a primary use of Manual methods. Thank you for the opportunity to comment.

David Blasco

4 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.

5 Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:

(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

6 Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.

7 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.

8 Any time vegetation management is proposed for threatened, endangered, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.

9 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

9

Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Use of existing data and techniques extrapolation to arrive at risk assessments for herbicides seems to have been thorough, but there is much that is not yet known about the active ingredients and their adjvants, separately combined, as they actually impact upon forest ecosystems (including human habitats and application-wildlife) in both normal and worst-case scenarios. Too often the comment assumptions in both normal and worst case scenarios (about likely toxic load, carrying capacity etc. etc.) that may seem reasonable but which have yet to be established empirically. No assessment is made of possible additional air-polluting emissions from the (described) burning of previously sprayed areas or the use of sprayer trucks as firewood for example. Also, little regard for the irregular and unpredictable Comments on Alternatives: Geology of the region is given, in USFS attempts to fine-tune it to avoid the pitfalls of herbicide use in favor of more economic biological manual, biological suppression of unwanted vegetation, and areas of avoid's intensive soil disturbance techniques of site prep. However, it is my opinion that management for timber production in the NF, may be WMS, and is currently overemphasized in relation to other uses (and of the expense of sustainability and conservative stewardship), as evidenced by the continued overdependence on even-aged management in general monocultures and clearcut harvesting techniques that severely impact of soil and water conditions (even in the relatively flat Gulf Coastal plains, as I have seen. Other: First-hand; much more so in the rolling hills of N.J.C. Arkansas!). The USFS needs to become more so than ever, the model steward in the field of timber production and forest management in general and this entails experimentation with the long-term and broadly defined WMS "cost/benefit" ratios of alternative methods of management. Not the mere dictation of intensive and destructive methods of the private timber industry in addition, the other multiple uses of the NF mandated by the public must be integrated. USFS acreage and land-use of conventional timber production in the (southern) United States, has a critical need for careful, sustained impact assessment, but the only national site To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

David A. Malm
 Name: First MI Last (Organization)
 HCB 7th Box 592
 Street
 Jasper AR 72641
 City State Zip Code

For other reasons and seem to have been set up (12.11.95 straw men.

Tear at perforation

Response to Comments in Letter No. 311

From: David A. Malm

Response

Comment No.

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
- 2 Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 3 Available information relative to herbicide half-life and fire in treated materials is presented in chapters 4 and 5 of the Risk Assessment and on pages IV-23 through IV-25 of the Draft EIS.
- 4 The Astatula sand presented in chapter 4 of the Risk Assessment is a worse case than is known for any others on the Ozark/Ouachita forests. Potential contaminants would reach groundwater in our example more quickly than in the Ozarks.
- 5 Your preference for alternative D has been included in the content analysis of all comments received.
- 6 As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and as such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.
- 7 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

Nov. 4, 1989

Vegetation Management DIS
Atlanta, Georgia

Dear Sirs:

I hope to see you

My concern regarding the
careless destruction of our
forests by spraying.Please put me on your
mailing list.Mary Aiken
105 Childress

Sandis, MS

38666

Response to Comments in Letter No. 312

From: Mary Aiken

Comment No.

Response

1

Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

JUNE DEBEAUBRINE HARRELL
 LANDSCAPE ARCHITECT
 749 STOVALL BLVD., N.E.
 ATLANTA, GEORGIA 30342

(404) 237-0209

Nov. 1, 1989

Mr. John E. Alcock, Regional Forester
 U.S.D.A. Forest Service
 1720 Peachtree Road N.W.
 Atlanta, Georgia 30367

Dear Mr. Alcock:

I appreciate the opportunity to review the Draft FIS on "Vegetative Management in the Ozark/Ouachita Mountains". I found it very informative and thorough. The omission of a discussion of harvesting and pertinent procedures was a disappointment.

I agree that alternative "F" provides the most advantageous vegetation management with the least environmental impact.

The unknown consequences of herbicide use should dictate the least use with the most controlled application.

Thank you for this opportunity to learn more about your goals and procedures.

Sincerely,

June D. Harrell
 June D. Harrell

Response to Comments in Letter No. 313

From: June D. Harrell

Comment No. Response

- 1 The Interdisciplinary Team is pleased you found the EIS informative and thorough.
- 2 Your preference for alternative F was included in content analysis of all comments received.

Rte 4, Box 603
 Mena, Arkansas
 October 29, 1989

Quanita and Spark UMDSLS
 U.S.A. Forest Service
 1730 Peachtree Road N.W.
 Atlanta, Ga. 30367
 Dear U.S.A. Forest Service,

I have read and studied the Quachita Report UMDSLS and attended the public meeting whose purpose was to assist us in understanding the vegetation management plan.

- 1 I feel the risks of herbicide use are unacceptable and recommend our forest lands vegetation be managed by manual methods which further local economies with by employing more personnel while not disturbing the soil or contaminating water sources or leave harmful residue.
- 2 I recommend and strongly favor an increased use of uneven aged timber management which naturally does much to control vegetation growth. The number one industry of the Quachitas is Tourism, this makes it imperative that we need in our U.S. forests a mix of the species, dogwood, red-bud, maple, oak, hickory and sweet gum and black gum with the mixed age pine.

Response to Comments in Letter No. 314

From: Inez Lane

Comment No.

Response

- 1 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 3 Potential entry of herbicides to surface and ground water is discussed in Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

A modified Alternative D proposed by the Newton County Wildlife Association, the Quachita Watch League, and Northwest Arkansas Environmental Guardianship, most nearly meets the practice. I could support.

I appreciate this opportunity to comment.

Very sincerely,
Larry Lane

The president of the
Tahlequah Senior Drive Integrative Assn.
Mena, R. 4 B. 603
Ark. 71953

4

Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

5

Your preference for alternative D has been included in the content analysis of all comments received.

P.O. Box 224

Winslow, Arkansas

November 2, 1989

U.S.D.A. Forest Service

1720 Peachtree Road, N.W.

Atlanta, GA 30367

To whom it concerns:

1 After considering the vegetation management alternatives, I fully support Alternative A, which involves no use of herbicides in the Ozark/Oauchita Mountains.

Thank you.

Sincerely,

Donna Phipps Stout
Donna Phipps Stout

Response to Comments in Letter No. 315

From: Donna Phipps Stout

Comment No.

Response

1 Your preference for alternative A was included in content analysis of all comments received. Note that alternative D also uses no herbicides. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though
 However you decide to respond, please help us by making specific and meaningful comments.
 Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1 I am opposed to any future herbicide use by the USFS for vegetative management.
- 2 Why? My family gets their drinking water from a spring that might be contaminated by herbicides. Manual methods would provide needed jobs & reduce risks.
- 3 Comments on Alternatives:
Alternative D, using manual treatments or alternative A - no action
- 4 Why? The forests can maintain their integrity by themselves with minimum interference from man

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

Name: Sandy J Swayne
 First MI Last (Optional)
DOB 2168
 Street
Jasper, AR 72641
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 316

From: Sandy J. Swayne

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Potential effects on water from herbicide use are described in appendix C and in part G of chapter IV. By applying herbicides at low rates (Draft EIS page II-53) and using buffers (Draft EIS page II-57 and II-58), surface and ground water will be protected very well (Draft EIS pages IV-97 to IV-106). Herbicides used on national forests will not build up in the environment; use is restricted to herbicides which have half-lives of 2 months or less and are essentially decomposed in 2 to 12 months (long before any subsequent application).
- 3 Choice of treatment method has essentially no effect on local employment (see minor differences noted in table II-8 on page II-70 of the Draft EIS). Manual vegetation management methods require regular retreatment to achieve the desired effect. This results in less effective management and increases cost. All treatment methods involve risks. Our analysis shows that manual methods involve the highest risks (see pages IV-25 through IV-29).
- 4 Your preferences for either alternative D or A were included in content analysis of all comments received.

To the United States Forest Service,

I write in concern of the Forest Service proposed vegetation management the Ozark/Cuachita mountain area.

1 I don't wish for herbicides to be used in our National forests as I do not know the exact reasons why anyone would want to do this, I can not answer to their reasons.

I only know general reasons why people want to manage the forests the same ole way as always, and to me, those reasons are not good enough. It all needs more thought and a larger overview.

2 It is my feeling that the Environmental Impact Statement for Vegetation Management has drafted in some "acceptable risks" and "data gaps" that call for further research. I like trees and water and bushes and grass a lot and I think there is a good reason to keep a lot of the trees that some

Response to Comments in Letter No. 317

From: Blake Clark

Comment No.

Response

- 1 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.
- 2 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

317

people think should be
destroyed.

Thank you for the
chance to comment,

Blake Clark

P.O. Box 494

Euveka Springs, Ark.

72632

To whom it may concern;

Nov. 2, 1989

I am opposed to any future herbicide use by the USFS for vegetation management because:

- 1) of extensive "data gaps" in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, and III-66 & 67, vol 1.
- 2) VMDEIS makes unjustified assumptions about "acceptable risk" involved with herbicide use. Before one can determine if a risk is acceptable it is necessary to ask the question, "acceptable by whom?" The use of herbicides poses an unacceptable risk to through possible ground water contamination, adversely affecting my quality of life.
- 3) of significant need for further research to fill these data gaps as stated on page IV-147, vol 1.
- 4) VMDEIS makes arbitrary use of quantitative risk assessment without an adequate data base, which was lacking for the majority of herbicides proposed for use.
- 5) no qualitative risk assessment was performed to determine the accuracy and verifiability of data used to fill large data gaps. Many times risk was assumed even though no studies had been done to determine all possible effects.
- 6) herbicide use on public land involuntarily exposes those extremely sensitive people which exhibit a range of reactions from lower-than-normal "no observed effects levels" to many possible toxicity reactions thus greatly endangering their lives, and exposing them to unacceptable risk.
- 7) VMDEIS fails to assess final responsibility for any unforeseen adverse environmental impacts. The chemical companies that make the herbicides have warnings on the labels which read "use at your own risk". USFS application contracts place the responsibility for any spills on the contractor. Finally, we the people will bear the ultimate responsibility for these unforeseen impacts if we allow herbicide use to continue.
- 8) there are huge data gaps in the research information used for developing the risk assessment portion of VMDEIS and the scientific uncertainty in modeling used to fill these gaps was not discussed in the document.
- 9) it is my perception that the risk is unacceptably high and feel justified in recommending that our public lands not be managed in this way.

Response to Comments in Letter No. 318

From: Jane K. Mobley

Comment No.

Response

- 1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 2 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.
- 3 See our response to comments in Letter No. 3, Comment No. 2 regarding your concerns about groundwater.
We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.
- 4 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking we identified the lack of data and explained how the Risk Assessment dealt with the gap.
- 5 We are unclear as to the purpose or meaning of a "...qualitative risk assessment..." 40 CFR 1502.22 requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on quality and relevance to the process.
The criterion proposed "...to determine all possible effects..." is at variance with 40 CFR 1502.2(b) which states: "Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues..." and also is inconsistent with 40 CFR 1502.22 which deals only with "...reasonably foreseeable significant adverse effects on the human environment..." "...All..." is not an acceptable criterion.

- 6 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.
- 7 In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk. Sensitive individuals must also use common sense and avoid areas which have been treated with a herbicide to which the individual is sensitive!
- 8 We agree.
- 9 Parametric statistics do not apply to data which is estimated using analogy - a non-statistical technique firmly based in science and generally accepted by the scientific communities.
- 9 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

- 10) VMDIS did not fully analyze all potential impacts and risks to water quality in geological regions containing karst areas, especially where lime sinks have created areas of rapid internal drainage during heavy runoff.
- 11) there are no water quality standards for most herbicides planned to be used since EPA and individual states have failed to set any standards for them. USFS claims to meet the strictest drinking water standards set by EPA of .100 ppm for 2,4-D the only one they have information on. The rest are assumed safe if amounts don't exceed those for 2,4-D.
- 12) due to a lack of scientific data, VMDIS does not adequately address the adverse impacts of burning herbicide treated vegetation. It says nothing of possible dioxins, dlfurans, chlorine gas, hydrochloric acid, cyanide, phosgene gas, or chlorine dioxide being contained in the smoke from prescribed burnings in these same areas. I recommend that there be no prescribed burnings in any stands treated in the past with 2,4-D which contained a small amount of TCDD, the deadliest form of dioxin and poison known to mankind. These dioxin breakdown products are extremely long lived and could be spread from the site in the smoke since they are not destroyed at low temperatures.
- 13) Quantitative risk analysis is a relatively new tool and does not have a proven track record for accuracy when predicting results. Such a risk analysis was used in California but failed to predict the effects of severe poisoning from eating watermelons sprayed with a pesticide at 1/5 the levels predicted to cause any effects.
- 14) worst case analyses are over conservative in their estimates for extreme spills. What if a helicopter crashed into a refill tanker? What if vehicle carrying herbicides crashed and spilled its entire contents? Spills onto workers this last April on the Buffalo District exceeded the project's worst case scenario thus proving that even the finest mitigation measures work best on paper.
- 15) LC50 and LD50 are inadequate alone to determine risk to humans and wildlife since they take into account only acute toxicity. Long-term, low level toxicity studies have not been done to predict the cumulative, synergistic long-term effects.
- 16) there are no studies of the synergistic and cumulative effects using full formulations of herbicides and their secret inert ingredients. This is a serious oversight since one of the inerts in 2,4-D was dioxin.
- 17) the "no observed effects levels" are too high, and are based on modeling and guesswork from rabbit and rat studies in order to estimate effects upon humans and are completely unreliable.
- 18) the risk assessment does not consider whether some of the herbicides may be tumor promoters or enhancers, or initiators of cancer in combination with other compounds that could cause cancer.
- 19) neurological and immunological data is unavailable for all herbicides listed since EPA does not require these at the present. These impacts are not considered. Hexazinone applicators have frequently complained of headaches from breathing vapors all day, a situation which indicates a need for these studies.
- 10 Potential effects on groundwater are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.
- 11 Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:
(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.
- Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.
- 12 While recognizing the commenter's concern about the possible effects of past practices with respect to current prescribed burning risk, we were unable to find data which supports the position offered. Available information, presented in appendix A, pages 5-31 and 5-32, shows margins of safety of 150 or greater when compared to toxicological reference standards. Please also review the general and prescribed fire reviews of quality presented on pages IV-116 through IV-124 of the Draft EIS. The EIS team will be glad to review any scientific information not previously reviewed.
- 13 Quantitative risk assessment has been in general use since the late 1970's. While not perfect, it has an excellent track record. The case referred to was one of an unpredicted synergism which was overlooked in the analysis. Reasonably foreseeable synergisms with potential to cause significant effects have been considered in this EIS (40 CFR 1502).
- 14 The Council on Environmental Quality Regulations, 40 CFR 1502.22 require that "reasonably foreseeable" significant adverse impacts be evaluated in order to make a reasoned choice among alternatives, management requirements, and mitigation measures in part E of chapter II constrain the magnitude of reasonably foreseeable accidents (see especially number 28 on page II-58 of the Draft EIS). We used water-based accident scenarios rather than terrestrial because the potential for significant environmental harm is higher. The terrestrial accidents you suggest are possible, but pose less environmental threat than the accidents we evaluated.

- 15 LD₅₀ and LC₅₀ are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.
- 16 Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.
- 17 NOEL's are evaluation of the highest dose of a chemical administered on a subchronic or chronic basis which causes no observable effect in test animals. It is scientific data not an arbitrary point. Thus, it is neither "...too high..." nor is it too low. The lowest NOEL among all tested species is taken to be an approximation of the human NOEL, and then a safety factor of 10 is used to make a more conservative (risk reducing) estimate. For further information see the discussion of Margin of Safety on pages 5-1 through 5-3 of the risk assessment (appendix A) and the discussion beginning with "Hazard Identification" on page IV-4 and ending with the discussion of "cancer potency" on page IV-8 of the Draft EIS.
- 18 Based on data presented in the Risk Assessment this concern was not felt to pose a reasonably foreseeable potential for causing significant effects. While continuing to monitor the scientific literature we have not yet no evidence to suggest that there is a legitimate concern in this area.
- 19 We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) simple toxic effects. The definition of headache = neurotoxic effect is too narrow a focus of this symptom.

- 20) bioaccumulation of herbicides is insufficiently assessed since studies used to project long-term bioaccumulation were only 4 day elimination rate studies. Studies in Sweden have found herbicide residue levels up to 6 ppm in liver and kidney tissues of 250 different wildlife species. This indicates that herbicides are much more persistent in the food chain than previously believed, and it increases the possibility for bioaccumulation in humans who eat these species of wildlife.
- 21) of unmentioned possible adverse effects upon biodiversity on National Forest land since herbicides disrupt the natural ecological processes through reduction in biomass and composition, and abundance of ground cover to protect soil from erosion in recently cutover areas.
- 22) herbicide use does not contribute to the local economies as well as manual methods of vegetation management. Manual methods would result in the highest rate of employment in an area with one of the highest rates of unemployment in the south. This would mean increased local returns to the economies: over \$40 more per acre than with herbicide use.
- 23) large data gaps exist in research regarding the breakdown products and metabolites for full formulation of herbicides and their inert ingredients.
- 24) I am further opposed to use of any vegetation management methods on threatened, endangered or sensitive (TES) plant and wildlife habitat because, if left alone, these areas will have a more stable environment with fewer human disturbances and more natural disturbances taking over to which TES species are already adapted.
- 25) I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice on public lands.
- 26) WADSWORTH falls to consider a full range of alternatives as per NEPA when it did not include an integrated pest management alternative such as presented by Norma Greir in Region 6 emphasizing prevention for need of VM and allowing natural processes to work, employing least invasive and least toxic methods, and using follow-up monitoring and evaluation to help fill in data gaps. It failed to consider a full range of alternatives when it did not include an alternative with reduced number total acres other than alternative A. These total acres to be treated are tiered to LMRP's which are currently under appeal and revision concerning overreliance on even aged management techniques which necessarily involve more site prep and TSI work.
- 27) Therefore I support, by reference, the WCA modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.

>>>> Finally, I do not believe the risks are acceptable for herbicide use and do not believe that public lands should be managed with them. Thank you for this opportunity to comment.

J. M. Molloy

- 20 The liver is the organ in the body which "detoxifies" blood. While reporting the presence of up to 6 ppm of herbicides in the liver, it was never made clear if this was transient removal of materials recently ingested/digested/circulated or if this was storage material. Since we have found no evidence of accumulation of these herbicides in our literature review, we find evidence to support commenter's contention that presence in a filter (the liver) = storage and accumulation in that location.
- 21 See our response to comments in Letter No. 42, Comment No. 2.
- 22 See our response to comments in Letter No. 23, Comment No. 2 regarding employment. We did not disclose any data which would support increased returns of \$40 per acre for manual treatments. In fact, the limited data supplied on pages IV-127 through IV-130 of the Draft EIS suggest a figure much lower than \$40. Additionally, if effectiveness of treatment is considered the comparison between manual and herbicide treatments becomes even closer. There is also the chance that labor may be provided by a contractor outside the community or even the State. Measuring the direct input to local economies is much more difficult than supposed in your comment. This effect is one which was determined to be outside the scope of this EIS.
- 23 We agree. See No. 7 on page IV-9 of the Draft EIS where we identify this as a data gap. (Gary, hard nosed here? This responds to their comment without getting us where we don't want to be (specifically, what did we do about these data gaps!)
- 24 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.
- 25 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.
- 26 Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.
- Alternatives A and B reduce acreage and alternative H increases acreage from Forest Land and Resource Management Planning levels. Any revisions or changes in Plan direction can easily be incorporated into any preferred alternative and acreage can be adjusted if necessary. We evaluated programs that they existed at the time of our analysis, not as they might be following some uncertain length of time, but we retained flexibility to adjust. Discussions of even-aged management is beyond the scope of this EIS.

27

Your preference for modified alternative D was included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

11/4/81

VEGETATION MANAGEMENT EIS
1700 PEACHTREE ROAD, NW
ATLANTA, GA,
30367-9102

DEAR SIRS:

REGARDING YOUR VEGETATION MANAGEMENT EIS FOR THE
OZARK/DURCHLIT MOUNTAINS, I WOULD LIKE TO SEE
YOU ADDRESS THE FOLLOWING:

- 1) WILL HERBICIDES BE USED FOR VEGETATION CONTROL?
- 2) IF SO,
 - a) UNDER WHAT LIMITATIONS?
 - b) WHO WILL PAY FOR THE HERBICIDES?
 - c) WHAT IS THE COST TO ADJACENT WILDLIFE SUCH AS WILDLIFE, RECREATION, BIODEIVERSITY, ETC. ASSOCIATED WITH HERBICIDE USE?

3) MY POSITION ON THESE ISSUES IS THAT INTENSIVE MANAGEMENT WITH HERBICIDES DOES NOT REPRESENT A POSITIVE COST-BENEFIT RATIO MANAGEMENT ALTERNATIVE. ALREADY THE TAXPAYERS SUPPORT ROADBUILDING & RECREATION, SOME PREPARATION COSTS THAT GETTEN EXCEED RETURNS TO THE TREASURY. THERE IS NO SENSE IN ENABLING SUBSIDIZING THE TIMBER INDUSTRY THROUGH USE OF HERBICIDES THAT DEGRADE OTHER FOREST VALUES. THESE COMMENTS APPLY EQUALLY IN THE CASE THAT THE LARGER DIRECTLY PURCHASES THE FOREST.

Sincerely,
John Winkler

Response to Comments in Letter No. 319

From: John Winkler

Comment No.

Response

- 1 The EIS shows conclusively that alternative F improves the effectiveness and quality control of our vegetation management treatments while posing minimal risks to people and the environment (Final EIS sections IV.B through M). It causes no unacceptable environmental impacts. Application of least-risk herbicides at lowest effective rates using drift-control and safety measures and buffers (Final EIS section II.E.2.c), with 95 percent selective treatments in the general forest (Final EIS section II.B.6), poses minimal risks of adverse effects. Criteria for applying each method appear in mitigation measures (section II.E) and potential acres for each are shown in section II.B.
- 2 Prior to any vegetation management treatment, projects will undergo site-specific analysis (mitigation measure number 1 on page II-38 of the Draft EIS) which determines appropriate methods and tools, intensity and selectivity of applications, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. This includes the examination and evaluation of a reasonable range of alternative methods, including the use of methods which do not involve herbicides. In order to prevent unknowing impacts on threatened, endangered, proposed, or sensitive species, regardless of the method or tool proposed for use, mitigation measure number 2 on page II-39 of the Draft EIS specifically states that when adequate population inventory information is unavailable, it will be collected when the affected site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species. Figure D-1 of the Draft EIS traces the process required to insure adequate assessment of potential harmful effects. Mitigation measure number 20 on pages II-57 of the Draft EIS further protects these species from risk of adverse effects.
- 3 Rigorous economic analysis was not desired by most people who commented. Many people suggested that if any economic analysis is done that it be a simple display of costs. Most found analyses such as those done in support of Forest Land and Resource Management Plans to be overly complex, confusing, and extremely difficult for the lay person to understand. Because this EIS incorporates the goals and objectives of plans, it necessarily incorporates plan's economic analyses, which, for those who request more detail, respond to that need.

Dear Sir
I would like to see the
use of herbicides stopped.
It will affect animals insects
other plants and fish as well
as the trees you use it on.

IRA

1

Response to Comments in Letter No. 320

From: Ira

Comment No.

Response

- 1 Your objection to herbicide use was included in content analysis of all comments received. Appendix A contains a Risk Assessment which deals with potential herbicide effects on humans and wildlife.

Dear Sir

I would like to see the use of herbicides stop. This practice kills trees and wildlife. I support mechanical management of the forest.

Sincerely,

Galen White
A.R.

Response to Comments in Letter No. 327

From: Galen White

Comment No.

Response

- 1 Your preference for mechanical rather than herbicide treatments was included in content analysis of all comments received. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments Scientific Analysis:

after re 'in' the information you sent me I am in favor of "Alternative B" as it why? because you have spent much thought and work into this project. I understand as a "tree farmer" myself, that the forest has Comments on Alternatives: to have select cutting & vegetation control or the forest will fade away and die.

Will

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

61 Mrs. Clyde D. Calloway
Willie C. Calloway, Inc. Tree Farmer

Name: First MI Last (Organization)
P.O. Box 27
Street
Hamlet, Ark. 71647
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 333

From: Clyde & Millie Calloway

Comment No.

Response

1 Your preference for alternative B was included in content analysis of all comments received.

337-339; 396; 414-418; 420-426; 464-466; 485-497; 524-529; 562-612; 629-632; 648-656; 658; 661-662

The above letter numbers are all of the same content and a copy of the letter is reproduced below. These numbers also appear next to the names of persons who sent them in chapter VI (Volume III).

**PUBLIC COMMENT
HERBICIDE USE ON OUACHITA/OZARK NATIONAL FOREST**

1. the undersigned taxpayer and recreational user of the National Forests, make the following comments on the Vegetation Management Draft Environmental Impact Statement for the Ozark/Ouachita Mountains. I oppose the future use of herbicides by U.S. Forest Service for vegetation management because:

- () Of extensive data gaps in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, and II-66 & 67, Volume I.
- () Of significant needs for further research to fill these data gaps as stated on page IV-147, Volume I.
- () Of failure to note needs for research on: neurological and immunological effects on humans; total lack of research on "full formulations" of proposed herbicides with all inert ingredients and possible contaminants along with their break down byproducts and metabolites;
- () Of failure to perform qualitative analysis of data to determine scientific verifiability.
- () VIDEIS does not adequately address the burning of herbicide treated vegetation for dioxins, difurans, chlorine gas, cyanide, phoegene gas or chlorine dioxide.
- () Possible adverse impacts on biodiversity and threatened and endangered species; and
- () USFS has previously failed to monitor and report herbicide spills onto workers at rates higher than the worst case analysis in the Buffalo District of the Ozark/St. Francis Forest in April of 1989.
- () The VIDEIS fails to properly assess the impacts upon diversity, water quality and water quantity.
- () The assessment of impacts is based on studies and information which are inappropriate to the Ouachita/Ozark Mountain region. (Unless otherwise indicated by checkmarks individually, my comment incorporates all of the above concerns.)

Therefore, I find the risks associated with herbicide use unacceptable and recommend that our public lands not be managed with herbicide use. Who will take the final responsibility for herbicide use where, as here, chemical manufacturers state that use is at the user's own risk and USFS is immune from civil suit for damages? I am also critical of the fragmentation of the vegetation management issue into two documents: the LRNP and VIDEIS, therefore I support by reference U.S. Fish & Wildlife Service Memorandum dated August 3, 1989 for protection of endangered species and habitat, forest fragmentation and abundance of existing early successional habitat and U.S. Department of Interior letter dated August 11, 1989 which replies to Ouachita SBIS LRNP. I also reference the Attorney General of Texas' letter response to VIDEIS for Texas.

Therefore I support a modified Alternative D as proposed by Newton County Wildlife Association, Ouachita Watch League and Northwest Arkansas Environmental Guardianship, including long-term study to eliminate the need for vegetation management through more ecologically sound timber practices, such as FCA's Flexible Forestry, including:

- 1. Reduced vegetative manipulation to 75,000 acres per year in light of revisions and amendments to current LRNP's;
- 2. Only low intensity prescribed burns on acreages which have not had herbicides applied in the last 10 years;
- 3. No intervention in habitats which might support any endangered plant or species until long-term studies indicate impacts appropriate to the habitat.

(continued) --

Response to Comments in Letter No. 336

From: Form Letter

Comment No.

Response

- 1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 2 We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.
- 3 We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects. The definition of headache = neurotoxic effect is too narrow a focus of this symptom.
- 4 We are unclear as to the purpose or meaning of a "...qualitative risk assessment..." 40 CFR 1502.22 requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on quality and relevance to the process.
The criterion proposed "...to determine all possible effects..." is at variance with 40 CFR 1502.2(b) which states: "Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues..." and also is inconsistent with 40 CFR 1502.22 which deals only with "...reasonably foreseeable significant adverse effects on the human environment..." "...All..." is not an acceptable criterion.
- 5 While recognizing the commenter's concern about the possible effects of past practices with respect to current prescribed burning risk, we were unable to find data which supports the position offered. Available information, presented in appendix A, pages 5-31 and 5-32, shows margins of safety of 150 or greater when compared to toxicological reference standards. Please also review the general and prescribed fire reviews of quality presented on pages IV-116 through IV-124 of the Draft EIS. The EIS team will be glad to review any scientific information not previously reviewed.

(continued)

- 4. Manual methods of treatment with some low intensity mechanical wildlife treatments and site prep, using mechanical site prep methods which expose no more than 6% of soil on a site;
- 5. No firewood permits for herbicide treated wood.
- 6. Increased use of uneven aged timber management to reduce the need for vegetation management which is caused by excessive opening of the forest canopy by current even age management which allows full sun to reach the forest floor.
- 7. Maintenance of mixed forest condition with a mix of species in various sizes and numbers as existed on each stand prior to manipulation by vegetative control which necessarily must be considered in conjunction with harvesting techniques.
- 8. Use of biological treatment which do not include domestic animals since deer are already present in sufficient numbers to control vegetation.

THANK YOU FOR THIS OPPORTUNITY COMMENT!

Please count this comment as 1 persons favoring Our/my address is: "Flexible Forestry" VMEIS Modified Option D.

NAME (Print) Steve Scott Signature [Signature]

3911 Oakwood Loop
Street/Postal Address (Print)
Little Rock Ar 72205
Post Office/City (Print) State Zip

Please provide a very legible name & address and sign before mailing!

Your comment will be excluded by USPS if not postmarked by November 6, 1989. MAIL ID.

↓ FOLD HERE ↓

Return address:

Place Stamp Here

OVACHITA/OZARK VMEIS
USDA FOREST SERVICE
1720 PBACHTREE ROAD, N.W.
ATLANTA, GA 30367

6 Selective herbicide use is recognized by the U. S. Fish and Wildlife Service as a valid tool for improving the habitat of several species. Concurrence by the FWS must be obtained before starting any habitat improvement project that "may affect" (including beneficial effects) any threatened or endangered species. Likewise, they can be valuable to release key wildlife plant species from competing vegetation. See pages IV-71-75 of the Draft EIS.

7 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.

8 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations shall not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water.

9 We used all available research data of which a considerable amount was from the Ozark/Ouachita Mountains. Other research data if reliable and applicable was used so as to provide the soundest scientific basis for the analyses. Extreme care was taken not to make unwarranted conclusions.

10 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

11 This is an umbrella or programmatic document. Each forest has or is currently completing a Forest Land and Resource Management Plan. This EIS and the Forests' land management plans will be used when preparing site-specific analyses as required in mitigation number 1 on Draft EIS page II-38. They will guide the process when working on specific projects. Please see implementation section, pages I-8 and I-10, of the Draft EIS. The Council on Environmental Quality Regulations contains specific provisions for preparing documents of a broad or programmatic nature (40 CFR 1502.4(b)), and for avoidance of repeating previously done analyses (40 CFR 1500.4(c)).

12 Your preference for alternative Modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Response to Comments in Letter No. 340

From: Form Letter

Response

Comment No.

1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used in an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

3 Your preference for a modified alternative D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

The above letter number is of the same content and a copy of the letter is reproduced below. These numbers also appear next to the names of persons who sent them in chapter VI (Volume III).

To: Steve McCorquodale USDA Forest Service
Re: Vegetation Management/Ozark Mountains

- 1 I am against all use of herbicides in vegetation management.
- 2 I feel the tests that have been conducted are inconclusive and biased. I also feel the risks involved are unacceptably high and the impact on water quality has not been thoroughly considered.
- 3 As an alternative to herbicides I support the NCMA modified Alternative D. This method has reduced total acres of management area, the use of mechanical and fire methods on a low intensity basis only and uses primarily manual methods with an integrated pest management approach leaning towards Alternative A, no action.

I do not believe the risks are acceptable for herbicide use on public lands for any reason.

Signed

Richard Schrum 10/26/89
Marlene Schrum
P.O. Box 366
Eureka Springs, Ar 72632

343; 356-393; 413; 467; 514

The above letter numbers are all of the same content and a copy of the letter is reproduced below. These numbers also appear next to the names of persons who sent them in chapter VI (Volume III).

October 27, 1989

USDA Forest Service
1720 Peachtree Rd. N.W.
Atlanta, GA 30367

Re: Clearcutting and herbicides

Dear Sir:

I am writing in regards to the Forest Services herbicides and clear cutting plans.

Having read comments on the new Forest Service 10 year plan, I would like to express my concern over rampant clear cutting and herbicide application and converting our forest into pine monocultures.

Our world, at present, is being attacked by pollution which will eventually destroy us. Why would the Forest Service, who are suppose to protect our environment, even consider clear cutting, use of herbicides and replacing our hardwoods with pine?

I, and many other concerned citizens, do not wish to stand by and watch this happen.

Thank you.

Sincerely,

Gene Hardin

Response to Comments in Letter No. 342

From: Form Letter

Comment No.

Response

1

Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

October 24, 1989

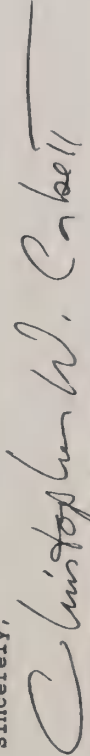
Superintendent
Ouachita National Forest
U.S. Forest Service
Box 1270
Hot Springs, AR 71902

Dear Sir:

I am very much opposed to the use of herbicides in our national forests.

Therefore, I strongly urge you to eliminate the use of herbicides as an option in the Ouachita Vegetation Management Plan currently under review.

Sincerely,



Christopher W. Corbett, Ph.D.
Ecologist

1808 W. Dena Dr.
Edmond, OK 73034

Response to Comments in Letter No. 344

From: Christopher M. Corbett

Comment No. Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

October 17, 1989

Mr. John Curran, Supervisor
Ozarkite National Forest
P. O. Box 1570
Hot Springs, Arkansas 71902

Dear Mr. Curran:

I am strongly opposed to the use of herbicides for the control of vegetation in the Ozarkite National Forest. The effect of poison in the forest food chain can be very long lasting and often not apparent when first applied.

There must certainly be biological or mechanical means to control unwanted vegetation that would not have lethal effect on other plant & animal life.

Please consider these other choices and not poison just because it's the easiest. Thank you for your consideration.

Sincerely,
Carl Lane

Response to Comments in Letter No. 345

From: Carol Eames

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced we require.
- 2 Section 3 of the Risk Assessment (appendix A) contains discussions regarding possible herbicide accumulation in the environment. Also, page IV-22 of the Draft EIS discusses bioaccumulation. Toxic effects on wildlife, as well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 3 The Draft EIS discusses five possible methods for vegetation management: mechanical, manual, herbicide, prescribed fire, and biological. Eight alternatives are developed in chapter II which vary numbers of acres treated by each of these methods.

1620 South Elwood, L-4
Tulsa, OK 74119

October 18, 1989

Mr. John M. Curran, Supervisor
Ouachita National Forest
P. O. Box 1270
Hot Springs, Arkansas 71902

Dear Mr. Curran:

I am strongly opposed to the use of herbicides in the Ouachita National Forest.

Any necessary vegetation or pest management needs to be by either hand, mechanical, and/or biological methods.

I BELIEVE IN A POISON-FREE FOREST !!

Please help ..

Sincerely,

A. E. Pitts

A. E. Pitts

Tulsa Zoo Docent
Tulsa Audubon Society
Oklahoma Cage Bird Society
Oklahoma Herpetological Society

Response to Comments in Letter No. 346

From: A. E. Pitts

Comment No.

Response

1

Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk in long term mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

There are many situations where mechanical and manual tools are the most desirable tools and should be used. Biological methods may be appropriate in the future to some degree; see discussion on page II-32 of the Draft EIS.

Mr. John M. Curran, Supervisor

Quachita Natl. Forest

PO Box 1270

Dot Springs, Arkansas 71902

Re: Mr. Curran:

I am very much against using pesti-

cides in the Quachita National Forest. Surely mechanical and other design methods can be used for pest control and to control unwanted growth.

Sincerely,
Elaine Renning
4177 E. 44th
Tulsa, Ok. 74135

Response to Comments in Letter No. 347

From: Elaine Renning

Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require. Effects from all methods are described in chapter IV. None of the methods can be considered "benign" as you have characterized them. Each produces specific effects which must be taken into account when selecting one for use.

2658 S. Winston Ave.
Tulsa, OK 74114
October 19, 1989

Mr. John M. Curran, Supervisor
Ouachita National Forest
P. O. Box 1270
Hot Springs, Arkansas 71902

Dear Mr. Curran:

I am opposed to any use of herbicides in the Ouachita National Forest, regardless of the assurances that may be given by the lumber company or the chemical company with regard to "safety."

The Stormwater Management personnel in Tulsa have already shown what "judicious" use of herbicides can do. All through Tulsa are dead ditches, devoid of the natural bird populations that usually feed in these areas - dead for over a year, now, since the grasses that might have come up under this "selective" poisoning have not appeared. A heavy rain with flash flooding was supposed to have been controlled by their new system - but what they did not tell the Tulsa public was that these particular rains did not fall in the drainage area for the creek involved - the flooding was held because the deluge fell north and west of Tulsa, in the drainage area for the creek into which the creek in question (Mingo Creek) flowed - ie., its "base level". If major stormwater does occur by heavy rains in the Mingo Creek drainage basin, there may not be as much flooding upstream from their "channellizing" but the erosion on these ditches will be something else!

Killing out the native vegetation even along roads and in planted fields of trees is a sure way to lose topsoil, destroy native animals who depend on the native plants, and create far worse problems than already exist from clearcutting and roadbuilding on our hills. The instability of some slopes in the Ouachita National Forest is already in evidence from the feature known as "Rock Avalanches," similar to some seen in Oklahoma's Wichita Mountains. Use of herbicides, as well as clearcutting, can certainly speed up the mass wasting that is constantly occurring at a slow rate in these areas.

Very truly yours,

Laurel P. Upshaw
Laurel P. Upshaw
Retired Geologist

Response to Comments in Letter No. 248

From: Laurel P. Upshaw

Comment No.

Response

1 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only ■■ a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

With these stringent controls required, our analysis shows that conditions you described in Tulsa could not occur.

2 Potential for causing adverse effects on non-target species is greatest when herbicides are broadcast on an area, which occurs with some ground application methods ■■ well as aerial. These potential adverse effects are limited by mitigations covering choice of herbicides; application rates, methods, and timing; and use of buffers (Draft EIS pages II-52 to II-59).

Buffer strips for timber harvest have been specified in each Forest Land and Resource Management Plan and are outside the scope of this EIS. Filter strips for prescribed fire and mechanical tools, whose width in feet must be at least 30 plus 1.5 times the percent slope, have been shown by research and monitoring to trap nearly all sediment from vegetation management activities before it reaches the stream (Draft EIS pages II-47 and II-52). Buffers for herbicide use (minimum 30 horizontal feet for ground application) have been shown by research and monitoring to keep herbicide concentrations in streams below 0.050 ppm (Draft EIS pages IV-98 to IV-101). Each forest may be more restrictive than these widths, but widening them for our EIS is not justified by the facts.

10-26-89

To Mr. Curran,

I am strongly opposed to the use of herbicides in the Ouachita National Forest. Any necessary vegetation or pest management should be done by hand, mechanical or biological methods. I believe in a poison free forest.

Thank you,

Jimmy Woodard

Response to Comments in Letter No. 342

From: Jimmy Woodard

Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

Mr. John Curran, Supervisor
 Quachita Nat. Forest
 Hot Springs, ARK 71902

Dear Mr. Curran;

1 I am strongly opposed to ~~the use~~ use of herbicides in the Quachita National Forest. Any necessary vegetation or pest management should be by hand, mechanical, and biological methods. Herbicides are so very dangerous and are doing more damage than most people realize by poisoning out water supply and killing life. I believe in a poison free forest so please do your part. Help the forest! (and us)

Sincerely,

Pattie Weitzman

Rt. 3 Box 412

Mannford

OK. 74044

Response to Comments in Letter No. 350

From: Pattie Helizman

Comment No.

Response

- 1 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.
- 2 Potential entry of herbicides to surface and ground water is discussed in Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

352-355

The above letter numbers are all of the same content and a copy of the letter is reproduced below. These numbers also appear next to the names of persons who sent them in chapter VI (Volume III).

HOWELL, PRICE, TRICE, BASHAM & HOPE, P.A.

ATTORNEYS AT LAW
211 SPRING STREET
LITTLE ROCK, ARKANSAS 72201

MAX HOWELL
DALE PRICE
WILLIAM H. TRICE III
CAREY E. BASHAM
RONALD A. HOPE
ROBERT J. PRICE

TELEPHONE
501-372-4144
TELECOPIER
501-372-7480
FAX
71-0480012

October 30, 1989

U.S. Forest Service
P.O. Box 1270
Hot Springs, AR 71902

Re: Vegetation Management in Ousachita and Ozark National Forests
Comment Deadline: November 6, 1989

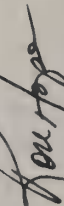
To Whom It May Concern:

1 Please accept this letter as my comment on the above-referenced matter. I am vehemently opposed to the use of herbicides or other chemicals to manage resources on public lands. I feel that it poses an unacceptable risk to the public and to the environment; one need only look at some of the Government's recent blunders with respect to pesticides and other chemicals to realize that the risk is real.

2 I am also opposed to the eradication of dogwoods, redbuds, and other hardwoods in favor of pine reforestation; while pine certainly provides a faster growing and more marketable "cash crop" than the hardwoods, pine is an unacceptable alternative in terms of esthetic enjoyment of public lands by the public and the utilization of same by wildlife.

Your consideration of these comments will be greatly appreciated.

Sincerely,



Ronald A. Hope

Response to Comments in Letter No. 351, 352, 353, 354, 355

From: Howell, Price, Trice, Brasham & Hope, P.A.

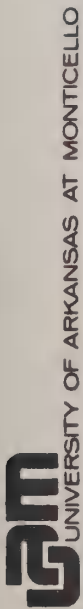
Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced. We require.

Appendix A contains a Risk Assessment which deals with herbicide effects on humans and wildlife, including reasonably foreseeable accident scenarios in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22.

2 Suitability of national forest lands to grow particular species is not an issue covered by this EIS. It is dealt with through Forest Land and Resource Management Plans.



UNIVERSITY OF ARKANSAS AT MONTICELLO

November 2, 1989

Mr. Steve McCorquodale, Team Leader
 Vegetation Management EIS Team
 USDA Forest Service
 1720 Peachtree Road, N.W.
 Atlanta, GA 30367

Dear Mr. McCorquodale,

After review of the Draft EIS for Vegetation Management in the Ozark/Ouachita Mountains, I hereby support Alternative F, the USDA Forest Service Preferred Alternative. In my opinion, Alternative F presents the optimum balance of vegetation management methods available for use.

I have attached some comments to this letter, which more accurately express my thoughts about the various alternatives, and which also express the manner in which I would modify Alternative F to fully embrace my professional views regarding competition control on National Forest lands. I have also commented on the integration of this planning effort with other planning activities in the Ozark-St. Francis and the Ouachita National Forests. Rest assured that my criticisms are intended as constructive comments offered for your consideration, or perhaps for the consideration of others within the administrative hierarchy of the National Forest system, rather than ranting disagreements with the EIS alternatives.

You and the planning team are to be commended for an extremely thorough analysis of an extremely difficult and emotional subject. Your review and interpretation of the available literature on the subject of competition control is extremely thorough - so much so that I plan to incorporate the EIS document into my silviculture classes. Equally thorough, and of value to those of us in the research community, are your comments on the critical research needs that will fill gaps in our professional knowledge of competition control. As both a member of the forestry profession and one of many National Forest landowners, I offer my thanks for the contributions of you and your team in the preparation of this extremely professional document, and in the continued development of a comprehensive competition control plan for the Ozark/Ouachita Mountains.

Sincerely,

James M. Guldin, Ph.D.
 Associate Professor, Silviculture

comments attached

CC: John E. Alcock, Regional Forester
 Mike Curran, FS, Ouachita NF
 Lynn Neff, FS, Ozark-St. Francis NF

Agricultural Experiment Station

Cooperative Extension Service

Response to Comments in Letter No. 394

From: Dr. James M. Guldin

Comment No.

Response

- 1 The Interdisciplinary team took its writing assignment seriously and is pleased that you find the product thorough and useful.

GENERAL COMMENTS

As a forestry educator and a professional forester, I find it extremely disquieting that the Land Management Plans of the Ozark-St. Francis NF and the Ouachita NF have apparently been developed through a process that is completely independent of the issue of vegetation management on those same forests. I regret my inability to appreciate the virtues inherent in this independent planning approach. I do, however, foresee that recommendations established through the Land Management Process are likely to be contravened by the Vegetation Management EIS. A simple question is at the heart of the matter. Which document will take precedence with respect to vegetation control - the Land Management Plan, or this Vegetation Management EIS?

2

For example, I recently provided input on the Amended Draft EIS for the Ouachita NF concerning the implementation of uneven-aged silviculture proposed by the Preferred Alternative W. My comments were based on the premise established in the Plan that the selective application of herbicides would be permitted. I suspect that an alternative similar to W is about to emerge from the Ouachita NF Planning Team. Yet, I am now confronted by the real possibility that the Vegetation Management EIS may change the standards upon which my comments were based; under the adoption of Alternative D, which removes herbicides for competition control, I would remove my support for uneven-aged silviculture in the Ouachitas because, under a regime of fire and manual methods, my opinion is that the method will not be sustainable.

3

I do not doubt that the Forest Service seeks public input with noblest intention. But if public input is codified in the Land Management Plan, whereupon the codification of the Vegetation Management EIS contravenes the premise upon which that input was based, the public that provided the input will be placed in the position of having their earnest comments distorted by an implementation policy beyond their control. In the worst case, the direction of management will be decided, whereupon the tools to execute that management direction will be withdrawn. I trust that an outcome that smacks of such seeming arrogance was unintended by the Forest Service.

4

Therefore, I urge in the strongest professional voice that Region 8 of the USDA Forest Service execute whatever amendments to the process are required so that in the future, forest-level management plans and regional vegetation management plans are considered not only concurrently but also in synchrony as is reflected by their elemental and functional interconnectedness. Deriving the vegetation management plan at the forest level as an element of the Forest Land Management Plan is so obviously the logical pathway for establishing the relationship that I can do little but express dumbfounded wonder at the current separation.

I further urge that the Vegetation Management EIS Team work with the Land Management Planning Teams of the Ouachita and the Ozark-St. Francis NFs to ensure the production of a Vegetation Management alternative that codifies the minimum accepted vegetation management parameters set forth in the Land Management Plans.

5

2 The only amendment to the Forest Plans expected from this process is the strengthening of environmental and health requirements (mitigation measures). Please see also response to comment number 1 in Letter No. 633. Neither takes precedent over the other; they are complementary. See also our response to comment 4 below.

These amendments are considered non-significant and will be displayed as exhibits B and C of the Record of Decision accompanying the Final EIS.

3 We agree. Alternative D, lacking herbicides, would make implementation of any form of unevenaged management unfeasible.

4 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Generally, this process concludes with an amendment to the Plan. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)). Again, Plans and this EIS are concurrent or complementary documents.

5 Alternatives C through G based acreage estimates on current Plan revisions. They are in concert with the Plans although degree of fulfillment of goals is variable and reflected in the summary of impacts by alternatives at the end of chapter IV (section IV-M, pages IV-130 through IV-147 of the Draft EIS).

6 Your support for a modification of alternative F has been included in the content analysis of all comments received. We also greatly appreciate the comments presented about the other alternatives.

6

SPECIFIC COMMENTS

A. Support for Alternative F

In my opinion, Alternative F presents an adequate array of competition control measures available for the silviculturist. The indicated methods will generally be effective in achieving the desired results. The major advantage of this alternative is the reduction in the use of heavy, intensive site preparation. Evidence cited in the EIS indicates the general trend that reduced use of practices such as piling will result in reduced compaction and loss on nutrients, thereby maintaining ecosystem productivity on National Forest lands.

B. Reasons for not supporting other alternatives

Insufficiencies of Alternative A

In my opinion, Alternative A is totally inappropriate in light of present USDA Forest Service objectives; the increasingly precipitous decline in outputs over time will cause major disruptions of timber, wildlife, and recreational opportunities.

Insufficiencies of Alternative II

This alternative provides ineffective control of competing vegetation on National Forest lands in the region. The use of herbicides is essential in timber stand improvement, especially at younger ages, particularly if competing vegetation species are woody hardwoods which are botanically endowed with the ability to sprout. For such species, mechanical methods tend to be ineffective unless applied intensively, and manual methods are extremely ineffective in preventing the treated stems from sprouting and perpetuating the competing relationship whose mitigation was initially sought. The explicit statement in this alternative that selective treatments are only allowed in wildlife habitat improvement implies that control of undesirable hardwoods competing with desirable hardwoods cannot be conducted with herbicides. This borders on irresponsible hardwood management for timber, wildlife, or recreational values. In addition, the inability to apply fire to even-aged pine stands for general competition control through the rotation severely constrains the efficiency and effectiveness of pine management.

Of greatest surprise in this alternative is the recommendation to use prescribed fire for uneven-aged site preparation. As a researcher whose major interest is uneven-aged silviculture, I must wonder at the confused logic of those who plan to rely on prescribed fire in uneven-aged stands. In the transition of stands from even-aged structure to uneven-aged structure, fire may be used as an initial treatment when the stand is still of even-aged character, prior to seedling establishment and development of saplings. However, subsequent use of fire in balanced uneven-aged stands is silviculturally oxymoronic, given that the tool has an audacious tendency to burn up the seedlings and saplings required for long-term sustainability of uneven-aged structure.

As you note, current research is addressing this issue in loblolly-shortleaf pine stands on the Coastal Plain, but even preliminary results of this study are unavailable. Any attempts to interpret research in progress from a given forest type and physiographic region to widespread practical implementation in a different forest type and a different physiographic region represent, in my opinion, the height of silvicultural folly and professional irresponsibility.

Further, there is no recorded instance, either in research or in empirical practice, of the successful maintenance of uneven-aged stands using only manual methods of competition control. In fact, all research and empirical practitioners of uneven-aged silviculture in the southern region -- loblolly-shortleaf pine in the Coastal Plain, shortleaf pine in the Ouachitas, bottomland hardwoods in the Mississippi Delta -- have been conducted with herbicides. I am unaware of a single long-term research study or a single long-term sustained empirical example in the region in which uneven-aged silviculture has been practiced in a sustained manner without herbicides. From this, I am forced to conclude that the Forest Service is presenting an impractical, and intractable, silvicultural system in attempting to advocate uneven-aged silviculture without herbicides, using only fire and manual methods. I must therefore discount this alternative, for the present, as wishful silvicultural thinking instead of practical silviculture.

Insufficiencies of Alternative C

Alternative C is a fairly good alternative. The major objection that I have to this alternative is in the potential for adverse soil and nutrient cycling effects due to intensive site preparation burns. I am not concerned about the visual appearance of stands if the altered appearance is short-term, and if the practice contributing to the alteration of appearance is the best available method for achieving the competition control objective.

Insufficiencies of Alternative D

In much the same manner as Alternative B, this alternative will provide ineffective control of competing vegetation, particularly in balanced uneven-aged stands in the region. Refer to the second through fourth paragraphs under Alternative B to review my concern that fire and manual fire and manual methods will be inadequate for maintaining uneven-aged stands on a sustainable basis.

In addition, the withdrawal of chemicals for competition control will greatly constrain the success of even-aged stand management. In particular, the use of manual methods for stand release operations (in either pines or hardwoods) will result in a much lower success rate for release. Under this scenario, I see a perniciously inexorable long-term reduction in future outputs in timber, wildlife, and recreation, which is contrary to the stated output predictions in the EIS.

I also have grave concerns regarding the increased likelihood of worker injuries due to the extensive reliance on mechanical methods for competition control. The tradeoff between societal exposure to herbicides versus worker exposure to sharp implements is very difficult to make. Given the evidence presented in the Draft EIS, I have greater concern about woodworker injury due to manual competition control methods than I have about adverse effects from exposure of the forest resource and/or society at large through careful use of forestry herbicides. Therefore, from this perspective as well as from those relating to silvicultural effectiveness per se, I cannot support Alternative D.

Insufficiencies of Alternative E

I oppose this alternative in that it restricts the use of an excellent tool in even-aged natural stand management, namely the use of disking in conjunction with fire as a seedbed preparation treatment under a seed-tree or shelterwood natural regeneration system.

Again, I question the long-term sustainability of uneven-aged stands under a fire regime, and I object to the use of manual methods in uneven-aged TSI on grounds of ineffectiveness.

Insufficiencies of Alternative G

Alternative G is a strong alternative, and I rank this alternative second in preference after Alternative F. I actually prefer the aerial herbicide application on utility rights of way that is proposed in this alternative to the much less efficient ground-based application method which foresters are constrained in Alternative F, and I further support aerial site preparation on LC500 lands.

However, I disagree with the alternative in the distribution of acreages allocated to the main components. I would increase the use of fire in even-aged pine TSI, particularly in older stands under the form of a regular four- to five-year burning cycle, in lieu of manual methods and herbicide application. I would hope that the acreage under even-aged site preparation would emphasize low- to moderate intensity methods rather than high-intensity methods.

Insufficiencies of Alternative H

Similarly to Alternative G, I find Alternative H to be a strong alternative, and I rank this alternative third in preference after Alternative F. In fact, I find this alternative to be the best alternative from the silviculturally idealistic perspective that this alternative maximizes the number of different practices of which a forester in need can make use, should site conditions so require. Aerial spraying of rights-of-way and LC500 lands, for example, would be feasible under this alternative, as described under Alternative G well. But more to the point, the alternative allows the use of heavy site preparation. For example, in the event of a large disturbance such as tornadoic winds (similar in the damage suffered in and adjacent to the Winona Research Natural Area in the Ouachita NF several years ago) the alternative of raking and piling on LC 500 land during salvage operations would be feasible under this alternative, and would represent the most efficient and expedient method to prepare such a disturbed site for reforestation (if, of course, it was established that salvage and reforestation were appropriate goals for the disturbed tract).

However, I find the acreages under the proposed treatments to be inappropriately distributed, moreso than under Alternative G. In particular, the rates of aerial application of herbicides for even-aged TSI is very high, especially when compared to the acreage projected for prescribed fire. For example, in pine management I would employ aerial release only in situations where development of desired species was in immediate danger of competition-induced mortality; otherwise, I would delay until a program of prescribed fire and selective herbicide use could be implemented. I would also reserve the intensive mechanical treatments for those situations that cannot be adequately ameliorated through less intensive treatments.

C. Modifications in Alternative F

I believe that Alternative F would be strengthened under the following modifications:

1. Allow the full range of competition control alternatives to be used. This could be done by including aerial herbicide applications (helicopter) and intensive mechanical site preparation (piling, double chopping, raking). Within this broad use, however, the number of acres subject to heavy mechanical site preparation would be minimized, and restricted to LC500 lands with high slash levels.
2. I would support the routine use of aerial application of herbicides for even-aged site preparation on LC500 lands when herbicide-based site preparation is the preferred prescription and where aerial application can be conducted with minimum adverse effects to adjoining non-LC500 lands.
3. I would support the routine use of aerial application of herbicides for even-aged release in even-aged pine management, when young even-aged stands of pine are in immediate danger of becoming understocked due to competition of associated species. Otherwise, I would urge delay in release, and would manage these stands with selective herbicide treatment.
4. I would support a broader reliance on prescribed fire for TSI in even-aged pine management through inception of a prescribed burning program on a cyclical basis for the life of the stand. TSI in even-aged pine stands can be conducted effectively with selective application of herbicides; manual methods may be practical, though of marginal effect.
5. Based on my own research and that of others, and based on my extensive empirical observations of uneven-aged stands in the West Gulf region, I have a grave concern that if fire and manual methods are the only methods to be used in competition control of uneven-aged stands, the great uneven-aged management potential in the Ozark and Ouachita Mountains will be a long-term failure through inability to sustain stand structure. Site preparation for uneven-aged stand management using fire will be effective only in shortleaf pine (or loblolly-shortleaf pine on the Tiak RD), and then only in the initial cutting cycle entry during conversion of even-aged stands to uneven-aged stands. All subsequent uneven-aged stand TSI and site preparation in both pines and hardwoods should be accomplished using selective or broadcast application of herbicides.
6. Release in hardwood stands should be restricted to selective ground application of herbicides; TSI in even-aged hardwood stands can be conducted effectively with selective application of herbicides; manual methods may be practical, though of marginal effect.

206 So Fourth St
Paragould, AR 72450
4 Nov 89

USDA Forest Service
1720 Peachtree Rd NW
Atlanta, GA 30367

Re: Vegetation Management

Gentlemen:

I note that you received about 7,000 pieces of mail on the proposed management plan for the Ouachita National Forest, with about 3,300 supporting the "industrial alternative," and about 2,600 for Alternate V (against clear cutting). Instead of showing what is best for the national interest, for posterity and indeed, for the forest itself, I think this shows more than anything the bias built into current laws. For example, the Knutson-Vandenburg Act allows the Forest Service to keep a certain portion of its timber sale revenues, and the Twenty-five Percent Fund Act of May, 1908 causes 25% of revenues from the Federal lands to be returned to nearby local governments for roads or schools. It is obvious that there has to be a bias in favor of Republican Budget Director Darman's "nowism"; that is, in favor of everything that maximizes the revenues now (or at least appears to do so.)

And although not included in your elaborate EIS pertaining to vegetation management, I think this bias has something to do with trust--public trust of Government in general and of the Forest Service in this particular instance. Clearly, the Reagan years did nothing to foster public trust. Reagan himself was not only ignorant of the U.S. Government and how it is supposed to work but he disliked the Government and if anything encouraged mistrust in it. And now, we have a Reagan successor whose lip-service commitments to the environment and other national issues are not even noteworthy as rhetoric, much less as leadership.

And speaking of bias, I note in the EIS, Chapter IV, Part M, Summary of Impacts by Alternatives, Alternative A, No vegetation management, virtually all comments are negative. Even when there is a positive, it is either negatively stated or followed by a "but" or "however" which describes a negative. Example: "Risk of damage to cultural resources is low...[but] There is increased risk of damage from wildfire in some fuel types." "Species such as gray squirrel benefit... but many species are affected adversely..." Your contractor knew in general what the Forest Service wanted, or its personnel were already philosophically bent toward timber production rather than a truly balanced forest where habitat, beauty, diversity, etc

1

Response to Comments in Letter No. 395

From: Phil Herget

Comment No.

Response

1

We agree that the Forest Service's public image is an important factor in our future. During the process, many of the public issues were raised and addressed in the EIS and resulted in considerable new emphasis and direction in carrying out vegetation management activities. By following the mitigation measures listed in chapter II of the Final EIS, it is our objective to promote a positive and responsible image.

The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.

National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service and services standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

- 2 Your preference for alternative B has been included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 3 This EIS makes no irreversible or irretrievable commitments of resources (see page IV-152 of the Draft EIS).
- 4 Your suggestion for a change in the way revenues are shared and tax receipts are equalized is not within the scope of this EIS.

weighed equally with timber. One has to wonder how Mother Nature managed to produce the virgin forests without the help of man.

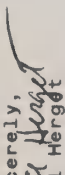
My preference has to be for Alternative B, if for no other reason than it provides for fewer acres to be treated than all but Alternative A and I do not believe Alternative A is a practical solution in this day, age and national government. As E. O. Wilson has said, "The one process that will take millions of years to correct is the loss of species diversity by destruction of natural habitats. This is the folly our descendants are least likely to forgive us." I appreciate the fact that the Forest Service is staffed with people trained in silvaculture; that there are places where the soil will grow good pine but labors to grow hardwoods, and that pines are intolerant of shade so that it makes sense to use those soils for pine. I also appreciate the fact that there are proponents of clear cutting, even aged management, etc, balanced by proponents for selective cutting; that there is expertise on both sides; and that the laws (such as mentioned above) tend to warp objective judgment in favor of nowism--pines, harvesting for pulp, to hell with habitat, etc.

I just think the conservative thing to do when what the Government is doing is not reversible and not correctable is to proceed along that path that is least harmful. Time may prove that what the Government is doing was the wrong path to take. [This is not the kind of "conservative" one finds in the Republican Party today] There are soils and plants which sustain a multitude of other organisms that have values not yet assessed. We have enough destruction of the environment through the everyday exercise of what we call civilization. The Forest Service has the job of dealing with portions of the environment that (largely) have not yet been destroyed. It behooves the Forest Service to take the true conservative approach, especially when the political "conservatives" in the seats of power in government are dedicated to Greed, Opportunism and Plunder. Indeed, it is my view that the Forest Service ought to initiate changes in the laws which create bias and mistrust in the Service's activities.

For example, those local governments which receive money from Forest Service revenues to use for roads or schools, ought to receive a Federal payment according to a sensible formula related to local taxation as compensation for loss of tax revenue from the federalization of their adjacent forest land; this compensation ought not to be tied in any way with revenues from the forest. The Forest Service could easily (and equitably) propose such a change in the law. Such an action, as well as one to repeal the law which bases part of Forest Service money on revenues derived from timber sales would go far toward restoring trust, which the Government desperately needs,

especially if it wishes to place any confidence in comments received from the public about proposed actions.

In Ronald Reagan's view, environmentalists were all extremist kooks, protected perhaps by the constitution from bodily harm, but their views, writings and speeches were little more than fulminations to be tolerated and ignored. People I know who are environmentalists are, by and large, legion; they make up a very large share of the general public. They are by far the majority of the owners of the National Forests. I suppose there are some who are extremists, but I believe these are fewer than one finds among the political "conservatives" who believe we should drop a nuclear bomb on somebody every month or so because the conduct of such victim does not comport with what those worthies believe to be right. Consequently, I think the Forest Service ought to discount to some degree those public comments it receives from sources that have a pecuniary interest in such destructive activities as clear cutting, aerial spraying of herbicides, etc. And I believe the Forest Service needs to recognize that its accounting is not and cannot be broad enough to cover all considerations involved in serious disturbances of the natural development and progression of forests; the same is true of their expertise. Use that expertise with caution when it comes to practices which destroy. Focus on the long term--not on the moment.

Sincerely,

 Phil Hergdt

We certainly agree that we should not be taking unnecessary actions in vegetation management. Please see the information presented in the analysis of alternative A. Your concern about natural diversity has been included in the content analysis of all comments received.

Vegetation management as analyzed in this document is not viewed as a purely economic issue. Vegetation management as defined on page 1-2 of the Draft EIS is done for more than just the production of timber: programs such as wildlife habitat improvement, threatened and endangered species protection are examples. Without control of understory vegetation for Red-cockaded woodpecker, for example, a species could be lost entirely.

We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-38-39 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34) supplemented and amended: 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended: 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

10/31/89

Dear Sir:

Concerning D.E.I.S. of the
Gard / Ouachita Mountains I
would like to say that we
in my area of Newton
County prefer Alternative
"D". Thank you for your
consideration.

Yours Truly,
H. Wayne Carlton

H. Wayne Carlton
Swain Community
H.C.R. 62, Box 347
Nail, AR 72628

Response to Comments in Letter No. 397

From: H. Wayne Carlton

Comment No.

Response

1 Your preference for alternative D was included in content analysis of all comments received.

Martha Ohlson,
102 Jasmine Ct.
Allen, Texas 75002

USDA Forest Service
1720 Peachtree Rd.
Atlanta, Georgia 30367

Dear Sirs:

I recently became aware that your Draft Environmental Impact Statement for Vegetation Management proposes using herbicides in the Ouachita and Ozark National Forests.

I am opposed to any use of herbicides in our National Forests! These chemicals are dangerous poisons, the effects of which are largely unknown. The only data published on most of these chemicals is LC50 and LD50. This is insufficient to determine risk involved since these numbers do not take into account long term low level exposure risk. Some chemicals, their breakdown products, and undocumented by-products of manufacture build up in plants and animals. The effects of this are unknown. It is assumed, by using only LC50 and LD50, that if a substance doesn't cause immediate death, it is then "safe".

Lately, we are discovering more and more of the side effects caused by chemicals previously thought of as safe. Hyperactivity in children has been traced to food additives, and more people are realizing that strange chemicals in food, water, and air are causing allergic reactions and even just general feelings of unwellness. Many chemicals are now known to be carcinogens. Forests are an important part of the food chain, (not only because of hunting, but because of being upstream of chickens and agricultural areas, too), and I for one do not want 2,4D or even the innocent, biodegradable hexazinone to be a part of my food or drinking water. Even the pine trees that you guys are growing on your plantations will eventually become a part of our daily lives in the form of paper products or as construction materials. It is not known what chemicals build up in a pine tree over a lifetime of exposure to the herbicides that kill its alleged competitors. The bottom line here is that the risks of herbicide use have not been adequately assessed by the VMDEIS. I believe the risk is unacceptably high, due to there being far too many unknowns.

I am also concerned about the combustion products of these herbicides. There should be no prescribed burnings in areas that have been treated ever at any time in the past with 2,4D or 2,4,5T or any other halogenated benzene derivative. In addition to the breakdown products of these herbicides, there is the danger of TCDD (dioxin) being spread in the smoke. It is also not a good idea to be selling firewood grown in these areas.

Response to Comments In Letter No. 398

From: Martha Ohlson

Comment No.

Response

- 1 LD50 and LC50 are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.
- 2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 3 While recognizing the commenter's concern about the possible effects of past practices with respect to current prescribed burning risk, we were unable to find data which supports the position offered. Available information, presented in appendix A, pages 5-31 and 5-32, shows margins of safety of 150 or greater when compared to toxicological reference standards. Please also review the general and prescribed fire reviews of quality presented on pages IV-116 through IV-124 of the Draft EIS. The EIS team will be glad to review any scientific information not previously reviewed.

Furthermore, herbicide use does not contribute to the local economy as well as manual methods of vegetation management. Manual methods would result in the highest rate of employment in an area that desperately needs more employment opportunities for the local people. We hear so much about the Forest Service's concern about the local economy, I am surprised that this was not considered. The only people that benefit economically from herbicide use are in New Jersey.

Please consider changing to an alternative that proposes NO herbicide use. (A or D) Remember - your children and grandchildren have to live in this world, too.

Thank you for this opportunity to comment.

Regards,

Martha J. Ohlson

Martha J. Ohlson

4 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

5 Your preference for alternatives A or D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

Why?

Other:

See comments of 4 pages attached.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold end staple with USD Forest Service address outside and drop in the mail (no postage necessary).

Bill J. Ballard

Name: First MI Last (Organization)

Rt. 1 Box 85

Sireel Watson, Okla. 74963

City State Zip Code

Tear at perforation

Fold

Fold

1 The scientific method of the EIS does not address the problem of global warming as a specific issue. Only smoke tons per alternative burning method is mentioned. Destruction of virgin forests in Brazil and Central America are uniformly censured. Yet proposal F will burn 250,000 acres and kill hardwoods on 120,000 acres in five years in: the Ouchita National Forest (Vol. I at p. 140-142). Plans should be shifted to provide for declining burns in Forest Service lands nationally as part of a national plan to reduce global warming.

2 No encouragement is planned for persons who burn wood to warm homes in cold weather by thinning undesirable hardwoods in the national forest. By marking hardwoods for firewood cutting and inviting the public in our hardwood crop could be improved without so many burns and herbicides. There seems to be a feeling by the public that the public should not touch any wood in the national forest.

3 No volunteer efforts are proposed for: transplanting endangered species, manual maintenance of trails rather than herbicide use, or manual removal of overstocked species. The state highway departments are getting organizations to perform chores for the

Response to Comments in Letter No. 399

From: Bill J. Ballard

Comment No.

Response

- 1 Prescribed fire is currently planned on about 57,200 acres per year on national forests in the Ozark and Ouachita National Forests; this is 56.5 percent of the vegetation management program (Draft EIS page II-6). Alternative F, preferred in the Draft EIS, would increase fire's use to about 59,200 acres per year, or 58.5 percent of the program (Draft EIS page II-12). These programs would contribute less than 2 percent of the total forest fire smoke produced in the Ozark/Ouachita Mountains and would play no significant role in the "greenhouse effect" (Draft EIS pages IV-121 and IV-122). Elimination of prescribed fire (alternative A) would eliminate our hazardous fuel reduction program, thus increasing wildfire risks to workers and the public (Draft EIS page IV-130). It would also have adverse effects on some wildlife species and would prevent recovery of some threatened and endangered plants and animals that are fire-dependent (Draft EIS page IV-131).
- 2 Fuelwood sales are not considered within the scope of this EIS. National forests have thriving fuelwood sales programs especially nearer populations concentrations. You may obtain permits and learn more about the program by contacting any District Ranger or Forest Supervisor.
- 3 This EIS does not address "who" performs any of the services other than to apply management requirements and mitigation measures to all for their protection and protection of the environment. The Forest Service utilizes thousands of volunteer hours annually, but also cooperates or administers several employment programs as well. Again, any District Ranger or Forest Supervisor could answer your questions about these programs in your area.

clean up operations along highways. One wonders if forestry could adopt the practice. The Legal Services Corporation must spend a fixed percent (about 12%) of their budget on private attorney involvement, part of which is volunteer lawyering. Over half of lawyers in the Wichita Falls, Texas area agree to take two cases a year free. Before the national requirement no cases were handled free ~~the~~ originating from legal aid. I found no plan ~~to~~ recruit and recognize volunteer efforts in either volume of Vegetation Management.

Word on the street is the national forest is no longer a preferred neighbor. One person pointed out clear cut land in the national forest cut 3-4 years ago on which nothing has been done since the clear cut. Nothing. Another person was shocked when the national forest was clear cut next to him. I know the feeling. International Paper clear cut on two sides of our selectively cut land. I still get an empty feeling everytime I look at the depressing baked soil where selective cuts would have left shade.

As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and as such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

Section 5 of Vol. II seems to take a cavalier approach to herbicide worker safety. No worker safety regulations are cited. The data regarding estimated exposure levels appear to be projections rather than data from actual workers who have worked with herbicides for several years.

I found no statement indicating attempts made to secure data from real people who must be licensed to apply the herbicides. One wonders why all the fuss about herbicides if on one in a million workers will get cancer (Vol II p 5-41). The data suggest that herbicides are safer than risks of being bitten by a snake or struck by lightning. Incredible.

There seems to be a presumption by Forestry that since the manufacturers studies all say herbicides are safe that we need have no further fear. Some of us are unwilling to place that much trust in manufacturers who always seem to be assuring folks that whatever they are selling is safe only to find out otherwise years down the road. Diapers that give babies a rash with a few herbicide residue parts per billion/cause enough scare to make one very cautious about what we put on our trees destined to be used for wood pulp.

The Staid Farm Journal magazine has finally taken up the hue and cry against herbicides finding herbicides in the urine of farm workers with only slight exposure.

I found not a word of comment on inhalation exposure for workers applying herbicide.

5

Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

6

Manufacturer's data, reviewed by EPA or published in the open scientific literature, was assumed to be valid in conjunction with other data. Where discrepancies were seen, they are noted in the document. The preferred alternative reflects management direction that increases effectiveness of treatments and precision of results (Final EIS sections I.A and I.B) with minimal risk to people and the environment (Final EIS sections II.H and IV.N).

Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

7

Inhalation is discussed in section 4 of the Risk Assessment (appendix A, pages 4-4 and 4-15) and in chapter IV of the EIS (pages IV-5 through IV-7 of the Draft).

Our biodegradable milk carton paperboard market was seriously threatened by dioxins measured at parts per trillion. Who would have predicted such a risk twenty years ago. My ASC and Forestry advisors said 24T was safe. Now they tell me that the current herbicide is safe. The credibility gap got too wide to believe. I'm not using herbicides on my 310 acres of selectively cut mixed pine hardwood forest.

8

Forestry diversity concepts receive a slap in the face at the thought of killing hardwoods on 24,000 acres per year. Herbicides do not promote forest diversity.

9

Herbicides promote monoculture pine forest. The Forestry Service proposals fly in the face of congressional intent to promote a diversity of trees. The federal courts appear to be the only court of last resort to gain the attention of the Forestry Service on diversity.

So, I believe we should not use herbicides except in life threatening situations on roadways where maintenance is impractical and risk of accidental death for motorists is very high, provided no herbicide enters the water chain.

W
..1

8

Our approach was to use all existing health and safety data together with our Risk Assessment models to do a detailed analysis of comprehensive health and safety effects as possible. The analyses were subjected to rigorous scientific review (EIS chapter V) and have broad support for their thoroughness and conservative overestimates of potential risk.

Comparisons are difficult; however, with all the required mitigation incorporated and the conservative analysis of herbicides, we think a comparison can be made and is necessary to assure the best health and safety to our workers.

9

We certainly agree that we should not be taking unnecessary actions in vegetation management. Please see the information presented in the analysis of alternative A. Your concern about natural diversity has been included in the content analysis of all comments received.

Vegetation management as analyzed in this document is not viewed as a purely economic issue. Vegetation management as defined on page I-2 of the Draft EIS is done for more than just the production of timber; programs such as wildlife habitat improvement, threatened and endangered species protection are examples. Without control of understory vegetation for Red-cockaded woodpecker, for example, a species could be lost entirely.

Potential for causing adverse effects on non-target species is greatest when herbicides are broadcast in an area, which occurs with some ground application methods as well as aerial. These potential adverse effects are limited by mitigations covering choice of herbicides; application rates, methods, and timing; and use of buffers (Draft EIS pages II-52 to II-59).

In this EIS, we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, page II-38-39) recognizes the requirement for managing to maintain biological diversity.

TO: USDA FOREST SERVICE

SUBJECT: VMDEIS IN THE OUACHITA/OZARK NATIONAL FOREST

I AM BASICALLY OPPOSED TO THE USE OF HERBICIDES FOR VEGETATION MANAGEMENT ON OUR PUBLIC FOREST AREAS IN THIS REGION BECAUSE:

1. BEING A PREVIOUS RESIDENT AND LOOKING AT PREVIOUS PRACTICES SUCH AS THE SELECTIVE CUTTING OF HARDWOOD TIMBER OFF OF PUBLIC LANDS- WHICH WAS QUESTIONABLE ACTIONS-NOW, YOU WANT TO USE HERBICIDES TO ELIMINATE UNWANTED TIMBER. THIS SOUNDS LIKE THE PUBLIC LAND IS BEING MANAGED BY A LUMBER COMPANY, STRICKLY FOR MONETARY PURPOSES. I FAVOR THE PRESENT "MOTHER NATURE APPROACH" TO MANAGING OUR PUBLIC LANDS. BESIDES, I LIKE OAK, MAPLE, HICKORY, AND OTHER SPECIES OF TREES THAT SOME MIGHT CONSIDER UNDESIREABLE.
2. THE USE OF HERBICIDES WOULD EVENTUALLY END UP IN THE FOOD CHAIN PLUS THE WATER TABLE OR SOURCES OF THIS AREA. ASSUMING THAT THE HERBICIDE WILL BE A COMPLEX ORGANIC CHEMICAL AND THAT NO LONG RANGE STUDIES OF THIS CHEMICAL AND ITS' EFFECT UPON MAN ARE AVAILABLE, I WOULD RECOMMEND TO HOLD OFF ON ITS' WIDESPREAD USE. CHANCES ARE THAT IT WOULD BE CARCINOGENIC AND ITS' AFFECT WOULD BE IRREVERSIBLE, ESPECIALLY TO PERSONS THAT HAVE LIVED NEAR THE APPLICATION AREAS.
3. ECONOMICALLY, THE USE OF HERBICIDES MIGHT BE THE MOST ECONOMICAL, FASTEST, OR EASIEST TO UTILIZE-BUT, IS IT THE BEST? AFTER LIVING IN THIS DEPRESSED ECONOMIC REGION, I FAVOR HIRING WORKERS TO ACCOMPLISH YOUR NECESSARY OBJECTIVES. THIS WOULD ELIMINATE ANY BAD CONSEQUENCES FROM CHEMICAL CONTAMINATION AND HELP LOCAL ECONOMIES.
4. THEREFORE, I SUPPORT, BY REFERENCE, THE NCMA MODIFIED ALTERNATIVE D WITH REDUCED TOTAL ACRES OF VEGETATION MANAGEMENT, LOW INTENSITY ON MECHANICAL AND FIRE METHODS, AND MANUAL METHODS ON OTHER MANAGEMENT ACTIONS. IN CLOSING, IN MY OPINION THE RISKS OF HERBICIDE USE ARE GREATER THAN THE BENEFITS AND I HOPE THAT THEY ARE NOT UTILIZED ON PUBLIC FOREST LANDS. THANK YOU FOR THIS OPPORTUNITY TO COMMENT.

THANKS,

Danny M. Garrett
 DANNY M. GARRETT
 10 GAFFIELD ROAD
 JUSTIN, TEXAS 76247

Response to Comments in Letter No. 400

From: Danny M. Garrett

Comment No.

Response

- 1 It is inappropriate to assume that only hardwoods have been previously cut from national forest lands, or that no intervention in the way of vegetation management is presently occurring (see alternative C (the current situation) on pages II-5 and II-6 of the Draft EIS).
 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.
- 2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
- 3 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 4 Your preference for alternative Modified D has been included in the content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

11/1/89

USDA Forest Service

P.O. Box 1270

Hot Springs AR 71902-1270

Vegetation Management EIS

1720 Peachtree Rd, NW

Atlanta, GA 30387-9102

Dear Folks:

1 My family and I are greatly oppose any and all timber, harvesting, road building, and vegetation management practices in the Ouachita National Forest.

2 We vote with strident pleas for the protection of areas like the Caney Wilderness - leave the forest alone. Don't "develop" it. There are few enough wilderness areas in the country.

NO LOGGING.

NO MORE ROADS.

NO MORE ABUSE.

Please!

Jeffrey W. Plant 11660 Coral Hills CT
Dallas TX 75229

Jeffrey W. Plant

Response to Comments in Letter No. 401

From: Jeffrey W. Plant

Comment No.

Response

- 1 Timber harvest and road building and the issues surrounding them are not within the scope of this EIS. They are addressed by Forest Land and Resource Management Plans. Your preference for no vegetation management is responded to by alternative A in the Draft EIS.
- 2 The vegetation management EIS does not propose any treatments in wilderness areas. If and when any such treatments are proposed, they must comply with applicable laws regarding wilderness management and would be subject to mitigation measures (especially number 1) contained in part E of chapter II.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form if you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1. there isn't enough scientific proof of the effects of herbicides on wildlife, water, & ground ecology of treated areas to warrant use of herbicides.

2. Comments on Alternatives: I strongly urge the use of Alternative A or B.

3. It is beyond my comprehension that a branch of our Federal Government would ever consider that the only way to destroy broadleaf vegetation is not to use it, but to use it. our Country is already suffering from the "greenhouse effect" and we just added to that threat to our lives the DDT, DDE, and DDD. The USFS wants to re-plant broadleaf trees of all pine trees. I understand you need to give control to the people. Why not utilize a natural means? Why not utilize wild carrots & in so doing provide jobs and a source of supply in our country and a means of supporting family systems in the American way.

4. To return this comment sheet, fold and staple with USDA Forest Service address outside & drop in the mail (no postage necessary). In the Medical Profession - have seen reports of chemical carrots in Sweden, Sweden. Criminal waste of people & animal life.

Name: Ms. Julie Vineberg
Street: 3109 Phoenix Dr.
City: Fort Worth TX
State:
Zip Code: 76116

Note: In Co-owner of property in The Ada, Rail, Arkansas

Response to Comments in Letter No. 402

From: Julie Vineberg

Response

Comment No.

1. Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

2. Your preference for either alternative A or alternative D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

3. Page II-12 of the Draft EIS displays a table of 13 program areas where vegetation management is proposed under Draft preferred alternative. This EIS addresses vegetation management for all of the major activities carried out on the national forest not just pine management.

4. Choice of treatment method has essentially no effect on local employment (see minor differences noted in table II-8 on page II-70 of the Draft EIS) because all methods require about the same number of personnel. Manual methods in many cases are the most appropriate. However, in other situations herbicides are more appropriate where objectives cannot be met manually.

MOUNTAIN CITY LUMBER COMPANY

P.O. Box 205
 Laurel, Bloomery, TN 37680
 (615) 727-5113

October 31, 1989

Mr. John E. Alcock
 Regional Forester
 U.S. Forest Service
 1720 Peachtree Road, N.W.
 Atlanta, Georgia 30367

Dear Mr. Alcock:

We appreciate the opportunity to express our views on the Draft Environmental Impact Statement (DEIS) for vegetation management on national forests in the Ozark/Ouachita Mountains. Mountain City Lumber Company expresses a deep interest in this matter.

We support adoption of Alternative H as the most appropriate approach for vegetation management on the affected national forests. This option is superior because it utilizes all treatment methods and provides the best management balance. Unfortunately, because we are experiencing a trend of decreased timber production acreage, vegetative control levels must be intensified on those remaining acres available for harvesting. Therefore, management conducted to achieve maximum vegetation control is most fitting.

The Forest Service preferred Alternative F and the current Alternative C lack the ability to utilize all methods of management. Both selections abandon the use of aerial spraying as an effective tool. We believe aerial application performed by highly trained professionals is successful for the treatment of larger land areas. It is also more economical than other types of herbicide application.

The use of herbicides decrease under Alternative F. According to the Forest Service Margin of Safety (MOS), no human would be adversely affected by any of the herbicides used for vegetation management. Approved forestry chemicals should be used to benefit vegetation on our national forests/

Alternative F relies too heavily on manual methods which are extremely labor intensive, more expensive, and require repeated treatments. Several manual treatments achieve the same results as one long-lasting herbicide treatment. While providing the optimum vegetation management for the area, Alternative H provides an economic advantage.

Response to Comments in Letter No. 403

From: Joseph G. Savery

Comment No.

Response

- 1 Your preference for retaining all legal and environmentally sound tools for use in vegetation management has been included in our content analysis of all the comments received. Alternative H provides for analysis of the full range of treatments and their effects.
- 2 We agree that aerial herbicide application can be economical, effective, and (our analysis shows) safe. It is considered an option in alternatives G and H. However, we are unaware of any sites within our study area where it is essential to completion of the job.
- 3 We evaluated only those products which have been identified as being proposed for use by our on-the-ground managers. There are many other products which are available for use, but our failure to analyze them does not indict them in any way. It just means we don't plan to use them.
- 4 We agree with your observations about possible effects of manual. Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on page II-38 through II-59 are designed to cause the least environmental impact.

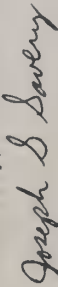
Page 2

Vegetation management is presently done on an average of 101,174 acres per year in the Ozark/Ouachita Mountains. Under Alternative H, that figure would increase to 126,156 acres. We feel this increase will enhance timber production, and benefit wildlife, soil, and visual quality of the area.

Although, we find it more difficult to comment on vegetation management for an area with no final Land and Resource Management Plans, we are confident that our alternative choice would remain the same. Alternative H best meets the vegetative needs of the region's national forests.

Mountain City Lumber Company again thanks you for the opportunity to comment on the Draft Environmental Impact Statement for the Ozark/Ouachita Mountains.

Sincerely,



Joseph G. Savery
President

5

5 This is an umbrella or programmatic document. Each forest has or is currently completing a Forest Land and Resource Management Plan. This EIS and the Forests' land management plans will be used when preparing site-specific analyses as required in mitigation number 1 on Draft EIS page II-38. They will guide the process when working on specific projects. Please see implementation section, pages I-8 and I-10, of the Draft EIS.

Since

This is a covered utilization which was his bound (present worth) being rapidly destroyed and which wants to take action to oppose the USFS management of public lands to include the establishment of the extreme use of mineral, medicinal, the water.

Aside from the public health regards, for which a sound case can be made. A sense of deep participation of the timber industry in supplying such use. It would mean more money in their pockets.

The way people should be exposed to such should be in Siberia.

The coal mining people find it hard to justify coal mining and should be restricted.

1

2

Response to Comments in Letter No. 404

From: Andrew A. Pringos

Comment No.

Response

1 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

2 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

We used all available research data of which a considerable amount was from the Ozark/Ouachita Mountains. Other research data if reliable and applicable was used so as to provide the soundest scientific basis for the analyses. Extreme care was taken not to make unwarranted conclusions.

The as best as in forest designed
their for 4-5 years until it was
finally revealed that ~~the~~ such
effort would never bring about.

3 The to be used for people sleeping at
the rest or that there is a
relationship between & no being
and most of the planning comes.

4 I've please you to
exercise a kind of stress relief
which will need to create an
way and to the public, which
will preserve our forests/
— and need to give us the
interse looking for the
timber in forest.

Respectfully

Robert A. Purvis

11-3-89

3 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used in an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

4 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

31 OCT, 1989

1 Hello,
I strongly oppose the use of any herbicides on public land. It is one of the most awful things I have ever seen. All of the outdoor groups that I am a member of also are opposing it.

OZARK SOCIETY
AUDUBEN SOCIETY
ARK. NATIVE PLANT SOCIETY
MIENA NATURE CLUB
D.W.L.

JIM SHIRES
RT. 1, Box 375
BECKVILLE, TX. 75631

Response to Comments in Letter No. 405

From: Jim Shires

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced. ■■ We require.

Response to Comments in Letter No. 406

From: Gwen Bennett

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received.
- 2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

11/1/89

Dear Mr. McConquodale and
The U.S. Forest Service,

It has come to my attention that the U.S. Forest Service is about to make a decision on how to manage the forests in our region. All but two of the eight alternatives include or stress the use of several herbicides.

I want to strongly state my opinion as a scientist and user of the area involved. I am vehemently opposed to the use of herbicides to control vegetation in our forests. My ten years' experience at the university level in the biological sciences gives me a background to question chemical control of ~~the~~ both vegetation and insects.

We can not keep turning to the "magic" and ease of chemical control without knowing what these herbicides:

- ① break down to in the environment
- ② enter our drinking water
- ③ effect ecosystems and nutrient

update by both plants and animals
 affect humans in both atmosphere exposure and possibility of spills or mishandling of these herbicides

We are a poor state, we rely such in natural resources. Would it be wiser to limit or eliminate the use of herbicides, and consider spending that money and energy on paying local people to clearly control the unwanted vegetation

Thank you for taking the time to read this. Concerned plea for a healthy environment.

Sincerely,

P.S. Alternatives
 A + D sound
 environmentally sound
 to me.

Green Bennett
 Littleton
 Carver Springs
 ARK 72632

3

Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

4 Your preference for alternatives A or D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

4

WILLIAM B. HOELKER
1508 NORTHLAND
CARROLLTON, TX 75006

NOVEMBER 3, 1989

USDA FOREST SERVICE
1720 PEACHTREE RD., N.W.
ATLANTA, GA 30367

SUBJECT: VEGETATION MANAGEMENT EIS
DRAFT 0/0
ATTENTION RM. 3628

DEAR SIR,

1 I WISH TO INFORM YOU THAT I FAVOR ALTERNATIVE "A" (NO ACTION) AS MY FIRST CHOICE AND WOULD SUPPORT ONLY A MODIFIED ALTERNATIVE "D" PROVIDED IT REDUCES THE TOTAL NUMBER OF ACRES OF VEGETATION UNDER MANAGEMENT, AND USES FIRE AND MECHANICAL METHODS SPARINGLY.

2 I AM DEFINITELY OPPOSED TO THE USE OF ANY HERBICIDES IN OUR NATIONAL FORESTS. I QUESTION YOUR ASSUMPTIONS IN CONCLUDING THAT YOUR APPLICATIONS ARE SAFE. FURTHER, I FEEL THAT THE BURDEN OF RISK FALLS ON THE PEOPLE USING THE FORESTS- YET WE HAVE NO CONTROL OR KNOWLEDGE OF WHERE AND WHAT YOU HAVE USED REGARDING HERBICIDES. I CANNOT FIND ANY RESPONSIBLE TEST DATA WHICH ASSESSES THE CUMULATIVE EFFECTS OF HERBICIDE APPLICATION OVER LONG PERIODS OF TIME. ALSO, YOUR STUDIES DO NOT ADDRESS THE POSSIBLE HARMFUL CUMULATIVE EFFECTS CAUSED BY THE INERT INGREDIENTS IN YOUR HERBICIDE APPLICATIONS. THIS IS A SERIOUS FLAW - REFERENCE THAT DIOXIN WAS AN INERT IN 2.4-D.

3 HERBICIDES COULD ALSO HARM HUMANS INDIRECTLY THROUGH THE FOOD CHAIN. BEFORE HERBICIDES ARE USED, THOROUGH STUDIES SHOULD BE COMPLETED TO DETERMINE IF ANIMAL/WILDLIFE TISSUE ABSORBE AND STORE THESE CHEMICALS. THUS, HUMANS WOULD BE POISONED WHEN EATING THESE TAINTED WILDLIFE SPECIES.

4 I AM OPPOSED ALSO THE MECHANICAL SITE PREPARATION BECAUSE I HAVE SEEN THE TREMENDOUS SOIL EROSION PROBLEMS IN THE OJACHITAS CAUSED BY THIS PRACTICE.

5 IN CONCLUSION, I FAVOR ALTERNATIVE A OR A MODIFIED ALTERNATIVE D (LIMITING BURNING, MECHANICAL SITE PREP, REDUCED ACRAE). I FEEL THE VMEIS MAKES UNJUSTIFIED ASSUMPTIONS ABOUT "ACCEPTABLE RISK" WHICH ARE NOT SUPPORTED BY ANY CREDIBLE SCIENTIFIC STUDIES REGARDING THE USE OF HERBICIDES.

SINCERELY,

William B Hoelker

Response to Comments in Letter No. 407

From: William B. Hoelker

Comment No.

Response

- 1 Your preference for alternatives A or Modified D has been included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.
- In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk. Sensitive individuals must also use common sense and avoid areas which have been treated with a herbicide to which the individual is sensitive!
- 3 Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.
- 4 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
- 5 By comparing page II-6 of the Draft EIS (current alternative) with page II-12, mechanical site preparation for evenage management is shown to be reduced in the preferred alternative. Further reductions may be possible by increasing the use of herbicides (see Draft EIS page II-10, alternative E).

6

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only ■■■ a supplement to this literature search.

Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long ■■■ mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced ■■■ we require.

October 31, 1989
610 NW 4th.
Bryant, AR 72022

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Road, N. W.
Atlanta, GA 30367

Dear Mr. Alcock:

I would like to thank you for this opportunity to comment on the Draft Environmental Impact Statement for vegetation management in the Ozark and Ouachita Mountains. I am a career forester with well over a decade of experience in forest management.

I support your objectives of protecting the public and the environment as you go about your activities of managing the forest resource.

I have studied the various alternatives that you have listed in the Summary and the DEIS itself. I feel that the current alternative (C) and the preferred alternative (F) fail to provide the best means for managing the forest. These alternatives appear to rely too heavily on manual means and totally exclude other valid methods of vegetation management. These alternatives appear weighted toward placating a relatively few vocal opponents. The National Forests are to be managed for the good of all of the American people, not for the pleasure of "special interest activists".

I recommend that the Forest Service adopt Alternative (H) for its vegetation management alternative. This alternative allows for the broadest possible choice of vegetation management tools. In particular, this alternative allows for the aerial application of herbicides. For those concerned about exposure to herbicides, this method provides for the lowest exposure. I would direct you to work on exposure done by Dr. T. L. Lavy. Exposure is much higher for hand applications of herbicides. Aerial application is much safer as well. There is less chance of personal injury; cuts, falls, back sprains, etc.; that are inherent in using hand held equipment.

I am particularly concerned about the heavy reliance on manual labor for vegetation management in the current and preferred alternatives. The potential for serious personal injury is always present with sharp hand tools. The personal suffering and costs associated with a leg severed by a chainsaw, far outweigh the perceived cost of some vague health risk projected far into the future. Many would tout manual methods as a means of achieving "full employment" in the forest area. Arkansas has an unemployment rate of only 5.5%, with the highest unemployment being in the eastern part of the state. I do not think that it

Response to Comments in Letter No. 408

From: Henry C. Griswold

Comment No.	Response
1	<p>Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. The preferred alternative (F) represents a set of methods and tools which allow us to accomplish goals and objectives of Forest Plans while at the same time considering the results of our analysis and the full range of public comment. Flexibility has been retained by our provisions for incorporating new data whenever it becomes available.</p>
2	<p>Your preference for alternative H has been included in the content analysis of all comments received.</p> <p>We agree that aerial herbicide application can be economical, effective, and (our analysis shows) safe. It is considered as an option in alternatives G and H. However, we are unaware of any sites within our study area where it is essential to completion of the job.</p>
3	<p>We agree with your observations about possible effects of manual. Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on page II-38 through II-59 are designed to cause the least environmental impact.</p>

will be possible to get workers to commute from eastern Arkansas for manual labor jobs. Employment is a social issue that should be addressed by other branches of government. "Make work" projects have never worked. A vigorous forest industry, based upon a stable and adequate timber supply, would go much farther toward reducing unemployment than swinging brush hooks.

I perceive a reluctance on the part of the Forest Service to use herbicides to their fullest advantage. Again, I feel that this is an unwarranted response to placate "special interest activists" who call themselves environmentalists. I consider myself an environmentalist. I have dedicated my entire working career, outside of a tour in the military, to working with the forestry environment. The Forest Service should not lock itself out of using the entire array of tools available for managing the forest for the good of all of the American people.

Many of these activists will cite data gaps, poor research, etc. as reasons not to use herbicides. A look at the DEIS Appendices indicates to me that a lot of work has been done on herbicides. A regulation change requiring new or better test creates a data gap. Pesticides are among the most researched products in existence. Adverse wildlife affects will probably also be cited. It is ironic that wildlife management agencies use herbicides to improve wildlife habitat. If the "special interests" want a "poison-free forest", what are we going to do about the poisonous snakes, plants and insects? That is an extreme statement to illustrate my point. If the true objective of the "special interests" is to convert the National Forest into a park or nominal wilderness, let them address the issue up front and directly. Let's not let create one by a "back door" approach.

In summary, make your decisions based on sound information not disinformation. Unfortunately, a lot of misinformation or deliberate disinformation has been disseminated on the issue of herbicide safety and use. Also, do not limit your ability to use the full list of approved herbicides. I know that you will receive a lot of scripted letters. I can only urge you to look through the trees and see the forest. I believe that a thorough analysis of the available information will reveal that Alternative (H) is the best alternative to maximize the benefits of the forest for all concerned. I thank you again for the opportunity to comment on the Draft Vegetation Management Environmental Impact Statement.

Sincerely,



Henry C. Griswold

4 We evaluated only those products which have been identified as being proposed for use by our on-the-ground managers. There are many other products which are available for use, but our failure to analyze them does not indict them in any way. It just means we don't plan to use them.

P.O. Box 566
 Cooper Creek
 72601
 Nov. 1, 1989

Vegetation Management E.S.D.
 Attn: The Steve Mc Coyne
 1720 Peachtree Rd., N.W.
 Atlanta, Georgia 30367-9102

Dear Sir:

The main reason we move to Arkansas is the natural environment. There is a lot of pollution and pesticide use even in the game forest.

It strongly object to the use of herbicides and to timber management practices in the Holm Oak Forest land of Arkansas. If there is any place still left in Georgia, we pray man will leave it alone.

Corduly,
 Shirley R. Fitea

1

Response to Comments in Letter No. 409

From: Shirley R. Watson

Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

Please see page II-12 for a complete breakdown of acreage projected to be treated by program area. Note that not all vegetation management supports timber resource outputs.

Herb Culver
 Nail, Ar 72628
 Vegetation Management EFS
 1720 Peachtree Road, NW
 Atlanta, Georgia 30367-9102

Mr. McCarquodale, I have studied your DEIS for Vegetation Management in the Ozark/Ouachita Mountains. I am deeply concerned about your proposed use of herbicides. The research documented has serious data gaps in the human and wildlife risk assessments. I find your notion that any risk is acceptable to be repugnant as I am a resident in holder of the Ozark Forest. USFS plans have already directly threatened my drinking water.

The use of deadly chemicals on public land is inappropriate. In this day of rampant chemical contamination, the government should take the lead in exploring alternatives.

Response to Comments in Letter No. 410

From: Herb Culver

Comment No.

Response

1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

See our response to comments in Letter No. 3, Comment No. 2 regarding your concerns about groundwater.

410

Of the alternatives you present I
choose plan A; Minimal action, Until
better alternatives to herbicides can be
found.

3

In good health

Herb Culver

3

Your preference for alternative A has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

449 W. Jefferson
Monticello, AR 71655
3 November 1989

USDA Forest Service
ATTN: Room 362S
1720 Peachtree Road, NW
Atlanta, GA 30367

Dear Sirs:

My comments are in regard to the draft environmental impact statement on vegetation management in the Ozark/Ouachita mountains. I feel that the document provides a good scientific analysis and a thorough presentation of the options. The tools, chemicals, equipment, and methods were well described. The effects of each option were projected and compared. In my opinion, the draft environmental impact statement provided very sufficient data for making an informed decision.

In respect to the alternatives you presented, my primary concern is that all management options be left open so that the most suitable treatment can be applied to each site and set of conditions.

Alternative A is obviously not feasible. Unlike National Parks, our National Forests are mandated to provide multiple resource benefits. Without vegetation management, not only timber production but also most other forest benefits and amenities will decline.

Alternative B is also too restrictive and would eventually lead to a decline in multiple use benefits.

Alternative D is unacceptable because it entirely eliminates the use of herbicides. There is no reason to do that. The Environmental Protection Agency will not label an agricultural chemical for sale until it is satisfied that the results of exhaustive testing show the chemical to be safe when used in the prescribed manner. This being the case, there is no reason to refrain from using herbicides in instances where they are the most cost-effective and satisfactory way to achieve an objective.

Alternative E addresses a perceived soil erosion problem which doesn't seem to really exist. Research reported by the University of Arkansas shows very low levels of soil loss following clearcutting and mechanical site preparation in the Ouachita Mountains. The study by Miller, Beasley, and Lawson found that sediment losses were only 215 to 250 pounds per acre during the first year following treatment and that the sediment losses declined sharply after that (pp. 117-129 in Proceedings of Forestry and Water Quality: a Mid-south Symposium; 1985).

Response to Comments in Letter No. 411

From: R. Larry Millett

Comment No.

Response

1 The Interdisciplinary Team is pleased that you found the analyses sufficient and useful.

USDA Forest Service
Page 2
November 3, 1989

Alternative F is a commendable effort to compromise between the conflicting demands of various user groups. However, I feel that it unnecessarily reduces the management options. For example, this alternative would not permit broadcast applications of herbicides in uneven-aged stands which contain too many small stems to treat individually. Yet, broadcast herbicides have been used for many years in the uneven-aged stands on the Crosscut Experimental Forest, and they are often cited as an example that the National Forests should follow.

Alternative G also limits the options too much. Prescribed burning is a good tool for both timber and wildlife management and I don't think that its use should be reduced as this alternative proposes.

Alternative H allows the most options. It's what I want to be free to do on my own tree farm should I choose. However, I think that on the National Forests we must accept a less-intensive level of management than is implied by this alternative in order to provide more diversity and more non-timber benefits.

Alternative C, the current situation, is my choice providing it can be approached in a spirit of enlightened compromise. Realizing that the Forest Service is already doing many of these things, I offer the following suggestions as examples of what I mean:

1. The Forest Service would retain the option to use herbicides, mechanical methods, manual methods, prescribed fire, and (perhaps) biological methods of managing vegetation. Henceforth, no option would be forfeited without a valid, research-based reason for doing so.
2. The Forest Service would be permitted to use any labeled agricultural chemical according to label directions, with due provisions for leaving buffer strips, avoiding drift, not treating watercourses, minimizing exposure, and other elements of responsible use of chemicals. (As a case in point, I have heard that the Ozark National Forest does not use Tordon. If that is true, I think that is unnecessary and costly policy.)
3. The forester on the ground would be knowledgeable about all the options for vegetation control and would, on a site-by-site basis, select the treatment that would do the job in cost effective way with the least adverse impact under the circumstances.
4. In making prescriptions, foresters would be sensitive to the concerns of user groups and select from among the vegetation control options which are feasible for the particular site so as to minimize conflict. (Similar to existing practices such as not using broadcast chemicals or intensive mechanical site preparation near water, recreation areas, etc.)

2 Your preference for alternative C with constraints has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

3 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

5. In view of the fact that less intensive vegetation control treatments may involve a higher risk of failure, foresters would not be penalized on their performance evaluations for taking justifiable risks in order to promote diversity.
6. As a matter of policy, hardwoods would be maintained:
- (a) on floodplains, along streams, and in major drainages.
 - (b) on upland cove sites.
 - (c) on other sites having soil and physiographic conditions suited to growing good hardwoods.
 - (d) any site where species conversion would not be cost effective from the viewpoint of a prudent forest manager.
 - (e) to meet specific, local wildlife management objectives (not sweeping prescriptions such as provide mast on every acre)
 - (f) specific sites where they are important for unusual scenic value, historic or cultural significance, etc.

In closing, I commend the Forest Service for doing a good job of rehabilitating and improving the land that became the southern National Forests. If Forest Service stewardship had not resulted in such a valuable asset, there would not be all this concern now about how the National Forests are used. Keep up the good work.

Sincerely,



R. Larry Willett

Response to Comments in Letter No. 412

From: Eddie & Eddie Gibbs

Comment No.

Response

- 1 Visual quality objectives for the national forests are required for each forest site specific project involving vegetation management. Treatments with herbicides are proposed to be carried out selectively in most cases and not broadcast as you described.

10-2-'89

Vegetation Management FIS
1720 Pacquette Road, NW
Atlanta, GA 30367-9102

Gentlemen,

Thank you for permitting us to express our feelings on the use of herbicides, fire, mechanical and biological means of plant or vegetation manipulation.

Recently we took a trip into N.W. Louisiana being through an area just west of Magnolia, Louisiana we saw sights that were sickening. The entire area had been sprayed with killer herbicides, right up to the roadsides.

All plants, except the pines, was dying. Is this the future for our following generations? Once upon a time the timber owners let it grow with next to the highways to hide their ugly destruction, no more.

Is this what you propose? Are our National Forests now subject to this treatment?

Please put our names on the mailing list for the Louisiana to Vegetation Management FIS. Please notify you including us on your mailing list.

Sincerely,

Eddie & Eddie Gibbs
6909 Gyales Drive
Little Rock, AR 72209

PS: I was born in the Ouachita - we go there often and meet people from all states drawn by the beauty that Nature created and now the forest management is trying to destroy.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Your analysis seems biased and was intentional. I observed the analysis done to favor air chemistry. Toward you - I'd like to know in chemistry. Why? Because you're afraid of the air - you're afraid of regulations of your own or choice of alternatives, by National environmentalists. I support alternative H.

Why? We should not limit ourselves in. Accessibility. Keep doors open - growth for the right to use medicinal products. Rather than to restrict them away from hand by selecting other. A plan to restrict or eliminate or development of medicinal products.

Why? I'd like to know how this is available for medicinal products, or it's hard to do a job on performance, aches.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Last (Organization)
John E. Anthony
P.O. Box 129

Street City State Zip Code
LACE Hm. 17th Av. 71951

Tear at perforation

Response to Comments in Letter No. 412

From: John E. Anthony

Comment No.

Response

- 1 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. This EIS is based on all sorts of output objectives established by Forest Land and Resource Management Plans.
- 2 Your preference for alternative H was included in content analysis of all comments received.
- 3 This EIS retains flexibility so that newer products and techniques may be adopted as they evolve. Each must be subjected to appropriate evaluation just as we have currently done, and this EIS may be amended or the Council on Environmental Quality Regulations, 40 CFR 1500-1508, may be satisfied in some other way. The inclusion of a mineral oil supplement in appendix A is an example of this flexible process.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 I have seen only the summary statement, and efforts I feel not enough is known regards the long term effects of herbicides, and I fear using no herbicides - The whole plant is contaminated enough already - Water quality is of serious concern to me.

Comments on Alternatives:

2 I prefer Alternative D

Why?

There is the one which uses no herbicides. Impact on wildlife would be a minimum.

Other:

I hope to be a home gardener and I

Why?

try to avoid any use of chemicals, and have found this method satisfactory in production + protection of my family's health.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization) Elaine B. McNeil

Street City State Zip Code 629 6RAY Fayetteville AR 72701

Tear at perforation

Response to Comments in Letter No. 427

From: Elaine O. McNeil

Comment No.

Response

- 1 Appendix A contains a Risk Assessment which deals with unknown effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. 2 Your preference for alternative D which uses no herbicides was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: I think it is inadequate, relying too little into consideration long range effects on humans of herbicides, and of burning herbicide treated vegetation (fire danger)

Why?

2 Comments on Alternatives: I strongly prefer Alternative D, but I urge a reduction in the acreage to be managed

3 Why? Primarily because it eliminates use of herbicides. My concern includes the protection of wildlife - and to be an aesthetic concern.

4 Other: Manual methods have the advantage of a permanent reduction in the use of the Diquat and Quackal areas, perhaps to be tied in with a future expanded job corps.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Gordon H. McNeil

Street City State Zip Code
629 Gray Ave
Troy, Tenn. TN 37201

Tear at perforation

Response to Comments in Letter No. 428

From: Gordon H. McNeil

Comment No.

Response

1 Appendix A contains a Risk Assessment which deals with short- and long-term effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Part B of chapter IV of the Draft EIS contains a section called "brown and burn" which discusses potential effects from burning vegetation which has been treated with herbicides.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Your preference for a modified alternative D was included in content analysis of all comments received.

3 See response to comment number 1 in this letter regarding wildlife. Also, parts D and E of chapter IV discuss possible effects on wildlife and habitat and threatened, endangered, proposed, and sensitive species. Aesthetics are addressed under part J of chapter IV. Mitigation measures to protect these values are found in chapter II.

4 Choice of treatment method has essentially no effect on local employment (see minor differences noted in table II-8 on page II-70 of the Draft EIS). In many situations manual methods are most appropriate. However, in other cases where retreatments may be ineffective herbicides may be more appropriate.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though! However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1
 Comments on Scientific Analysis: I feel that herbicide use in the forest is a risk to all of us - our future generations.
 Why? I don't feel there is enough data yet on all of the health hazards. I left the East Coast because of air and water pollution. I'm moving to the West Coast.
 Comments on Alternatives: I prefer alternative D or A because there is no use of herbicides. I just feel that there is more evidence we need to slow down.
 Why? I think more manual practices would probably benefit more people. We could put more on-site people to work.

Why?

(use additional sheets as necessary)
 To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
 MARY A OLSON
 Street
 31 BOX 161
 State Zip Code
 Oregon 97004

Tear at perforation

Response to Comments in Letter No. 429
 From: Mary A. Olson

Comment No. Response

2. An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Potential effects on water are discussed in appendix C and in part G of chapter IV. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

3 Your preference for either alternative D or alternative A was included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

4 Please see response to comment number 4 of letter 428.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I am opposed to any future herbicide use by the HPA for vegetation management activities. The use of herbicide poses an unacceptable risk to me through possible ground water contamination, already affecting my quality of life, and ultimately my health and that of my family. HPA's failure to fully assess the potential for any unforeseen adverse environmental impacts is a major concern. We the people will bear the ultimate responsibility for unforeseen impacts.

I am further opposed to use of any vegetation management methods on chestnut, endangered or sensitive plant and wildlife habitat because, if left on Alternatives: HPA's failure to consider a full range of options alternatives when it did not include an integrated pest management alternative such as presented by Nims, their in Report employing prevention for need of IPM and allowing natural processes to work, employing least toxic, invasive and least toxic methods, and using follow-up monitoring and evaluation to help fill in data gaps. It failed to consider a full range of alternatives when it did not include an alternative with reduced herbicide use than alternative A.

I support Newton County Wildlife Area, modified alternative B with reduced total acreage of vegetation management, the use of mechanical and fire method on a full intensity basis only, primarily using manual methods with an integrated pest management approach leaning toward Why? Alternative C is no action. I do not believe the risks are acceptable for herbicide use and do not believe that public lands should be managed with them. I believe more emphasis should be placed on studying natural cyclical systems. Maintaining the forest usefulness and beauty for future generations is far more important than immediate economic gain. Thank you for this opportunity. (706) 528-1111

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Vincent B. Leyendecker

Name First: Vincent, Last: Leyendecker, Address: Walnut Rt Box 274, State: AR, Zip Code: 72857

Tear at perforation

Response to Comments in Letter No. 430 From: Vincent B. Leyendecker

Comment No. Response

- 1 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
2 Potential effects on groundwater are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.
3 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.
4 Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.
5 Your preference for alternative Modified D has been included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Comments on Scientific Analysis: cont'd.
 alone, these areas will have a more stable environment with fewer human disturbances ~~to~~ and more natural disturbances taking over to which J.E.S. species are already adapted.

I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice on public lands.

7

6 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

7 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1 I prefer Alternative H

2 Why? This Alternative gives allow for the use of herbicides applied in manner consistent with labels. Manual labor is slow and expensive and cost returns are low when vegetation control is done with this method. I am a professional forester and I know the ~~importance~~ importance of vegetation control and Timber Growth.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization) Roy Smith
1445 C/O Creek Ln.
City State Zip Code
Cave Ck AR 72521

Tear at perforation

Response to Comments in Letter No. 431

From: Unreadable Name

Comment No.

Response

- 1 Your preference for alternative H was included in content analysis of all comments received.
- 2 Effectiveness of each treatment method is discussed partly in part D of chapter II, but more specifically in part C of chapter IV. The Draft EIS recognizes the low effectiveness of manual treatments and in part B of chapter IV identifies the risks of accidental injuries associated with their use. Alternatives A and D do not permit the use of herbicides. Other alternatives permit herbicide use at varying levels, all consistent with label directions.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use the form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 Very Adequate, thanks for using an independent source to prepare risk assessment other than Forest Service or Chemical Company data on Why? Herbicides.

Need the most unbiased opinions, analyses possible.

Comments on Alternatives:

2 Agree with the Arkansas Forestry Association of which I am a member that H will give the most flexibility.

As issues change, having more "tools" to work with will be an advantage.

Other:

3 More manual labor is not the way to go. Experienced hands are rare, workers comp. insurance is high.

Accidents from manual methods such as chain saw felling are usually severe - check out 2 fatalities / 1 paraplegic + several near fatal accidents on the (the additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary). *Check in the last several years.*

Name: First Leonard R. Last (Organization) Bollman
 City Hot Springs State Ark Zip Code 72530

Tear at perforation

Response to Comments in Letter No. 432

From: Leonard R. Bollman

Comment No.

Response

- 1 Not only was the Risk Assessment prepared by an independent contractor, part D of chapter V lists several persons of many affiliations who reviewed and critiqued the contractor's work.
- 2 Your preference for alternative H was included in content analysis of all comments received. See also our response to comment number 3 in letter 419 which discusses flexibility to incorporate new information.
- 3 Accidental injuries are the principal concern when using manual methods. Part B of chapter IV, especially table IV-7 and table IV-8, discusses the frequency and severity of these injuries.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: There appears to be a lack of data regarding some very significant areas. These gaps pertaining to the lack of information on synergistic and cumulative effects, no levels specified as "to high; neurological and immunological data is unavailable, the lack of data on effects of the herbicides on water quality; inadequate information on the cumulative effect of these herbicides on wildlife and the people who may eat them. Why? Any gaps in research and information should be closed before advocating the use of toxic materials. The acceptable risk factor you describe is unacceptable to those of us who live in the forest and use its products and eat its wildlife. Especially when had methods are less expensive, provide local jobs and the damage to humans is significant. Why? Alternatives: understood and calculated.

2 The only acceptable alternative I see is hand and manual clearing of the forest. As stated above, it is known to be safe (no data gaps), provides local jobs in areas with high unemployment, is safe for wildlife and other creatures that live in the forest. Why? support the ALTERNATIVE D as modified by the Newton County Wildlife and fire methods; manual methods with integrated pest management. Why? The above explanation is sufficient to describe the "why" of such a selected alternative. I have lived in and around forest all my life. I have seen the devastation herbicides can do to the forest ecosystem.

3 Other: The Forest Service has an opportunity to become a leader in safe and ecological forest practices. In this day of environmental concern, it should be those government agencies that should lead the way that are mandated to look after our natural resources. Private organizations Why? should not have to fight you to get you to see the damage that is done to our planet by poor and irresponsible forest practices that keep in mind only the short term economic gain and not the long term health of our country and planet.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: William G. Lord, Jr. Justice of the Peace
First MI Last (Organization)
HCR 70 Box 247
Street Jasper, AL 72641
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 433
From: William G. Lord, Jr.

Comment No.

Response

1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

Potential effects on groundwater are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.

Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.

We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.

2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

3 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

- 4 Manual methods actually are the least safe. See pages IV-25 through IV-29 of the Draft EIS.
- 5 Your preference for alternative Modified D has been included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 6 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.
- We agree with your statement and that is one reason we undertook the difficult task of finding better ways to accomplish vegetation management. As a result of this process many new requirements have been incorporated to protect our environment as the Forests carry out their vegetation management practices.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: Not adequate. You don't know what effect herbicide use will have in the long term on our springs and undergroud water systems. What about animals that might eat these plants? People who Why? might eat these animals? There's danger to their homes. The burning of herbicide treated vegetation is very dangerous, will put poisons in the air that we will breathe. There's already Comments on Alternatives: Too much environmental pollution of our I support Alternative D. Why take the chance of causing more when we don't have to and should know better.

2 Why? It's safer. It makes sense. The risks for herbicide use are not acceptable, and I do not believe that public lands should be managed with them.

Why?

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

(use additional sheets as necessary)

Virginia S. King
 Name: First M. Last (Organization)
 HCR 7a, Box 10
 Street
 Jasper, Ar. 72641
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 434

From: Virginia S. King

Comment No.

Response

1 Potential effects on water are discussed in appendix C and in part G of chapter IV. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

The Risk Assessment (appendix A) details the exhaustive analysis process used to determine risk of toxic effects to wildlife. Even though a very conservative approach was used throughout the analysis to deliberately overestimate potential adverse effects, few of the herbicides were predicted to pose a significant toxic risk to animals. Distance standards for protection in those instances where risk may be significant (as with threatened, endangered, proposed and sensitive plants) are in accordance with standards established by EPA and FWS. Herbicide treatments within habitats for threatened, endangered, proposed, and sensitive species must be 100% selective (applied directly to individual target plants) and in accordance with mitigation numbers 20 and 21 (page II-57 Draft EIS), which reduces potential risk to these species to a minimal level.

See our response to comments in Letter No. 3, Comment No. 2, regarding your concerns about groundwater.

- 2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
See also table IV-1 on page IV-15 of the Draft EIS.
- 3 Part B of chapter IV contains a section on brown and burn techniques which discusses the risks associated with burning herbicide treated vegetation.
- 4 Your preference for alternative D was included in content analysis of all comments received. It is inappropriate to assume manual methods are safest. Our analysis which is based on accident data from our own operations indicates that manual methods are actually least safe. See table IV-7 and table IV-8.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I am firmly opposed to any use of herbicides in the National forests.

Why? Because of the risks to human and animal life through contamination of ground water.

Comments on Alternatives:

Clean cutting and bulldozing are also environmentally harmful because of negative effects on soil and water.

Why?

Other: We should let the forest grow naturally because this provides a stable environment for plant and animal life.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First James A, MI, Last White (NECA)
Street: PO Box 32891, State Mo, City KC, Zip Code 64111

Tear at perforation

Response to Comments in Letter No. 435

From: James A. White

Comment No.

Response

2. An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

See our response to comments in Letter No. 3, Comment No. 2 regarding your concerns about groundwater.

2 The issue of clearcutting is beyond the scope of this EIS. It is discussed in Forest Land and Resource Management Plans.

3 Alternative A is the "no action" alternative, and the effects of doing nothing are described in the Draft EIS.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

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1 Comments on Scientific Analysis: I AM OFFENDED TO ANY FURTHER NEEDING USE BY US FOR VEGETATION MANAGEMENT BECAUSE THERE IS NOT ENOUGH KNOWLEDGE (DATA BASE) IN REGARD TO RISK TO PEOPLE, WILDLIFE AND WATER. THE RISK INVOLVED IS UNACCEPTABLE TO ME. I AM ALSO AN ORGANIC GARDEN IN MENTAL CO. & WOULD NOT WANT ANY PART ON MY FARM. I BELIEVE WHY? THAT OUR ECO SYSTEM IS OUT OF BALANCE BEING AND SHOULD BE LEFT ALONE TO BE NEW THERE. ALL ALTERNATIVE SHOULD BE CONSIDERED WITH CAN BE CONSIDERED SCIENTIFIC OVER MANY GENERATIONS, NOT JUST THE COMMENTS ON ALTERNATIVES: LIFE FOR OF WHATEVER-TARGET CROP BEING HELD.

2 I support low intensity mechanical and fire methods, but not by manual or noise at all

3 Why? Because they are the least intrusive & will employ locals who could use the work. Herbicides are potentially invasive on and to all levels of life. Thank you, for considering my input.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Michelle Borges (Organization)
Address: 1400 1st St, Davis, CA 95618
City, State, Zip Code

Tear at perforation

Response to Comments in Letter No. 436

From: Michelle Borges

Comment No.

Response

1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Potential effects on water are discussed in appendix C and in part G of chapter IV.

2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

3 Choice of treatment method has essentially no effect on local employment (see minor differences noted in table II-8 on page II-70 of the Draft EIS). Manual vegetation management methods require regular retreatment to achieve the desired effect. This results in less effective management and increased costs. Additionally, while manual methods may seem least invasive, they actually result in the most frequent and most severe accidental injuries (see table II-7 and table II-8).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

You guys know more about these chemicals than we do. So we don't think we should try to tell you what and how to use them. Charles Beard Pres. 35 H.C.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Charles R. Beard "35 Hunting Club"

City: RFA Box 91

State: West Virginia

Zip Code: 26055

Tear at perforation

Response to Comments in Letter No. 437

From: Charles R. Beard

Comment No.

Response

1 The Interdisciplinary Team appreciates your support.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

HERBICIDES SHOULD BE BANNED FROM PUBLIC LANDS.

Why?

THE HEALTH EFFECTS ON HUMAN BEINGS AND WILDLIFE HAVE NOT BEEN ADEQUATELY ADDRESSED

Comments on Alternatives:

MANUAL RELEASE OF VEGETATION PREPARED.

Why?

MORE EMPLOYMENT, LESS DETRIMENTAL TO ENVIRONMENT AND WATER QUALITY.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

Name: First STAR RT, Last (Organization) BOX 140, Street OSAGE AVE., City State AR. Zip Code 72634

Tear at perforation

Response to Comments in Letter No. 438

From: Ned Whitlock

Comment No.

Response

1

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2

Choice of treatment method has essentially no effect on local employment (see minor differences noted in table II-8 on page II-70 of the Draft EIS). Manual vegetation management methods require regular retreatment to achieve the desired effect. This results in less effective management and increased costs. Tables IV-7 and II-8 also display other effects associated with manual treatments which must be taken into account.

Potential effects on water are discussed in appendix C and on pages IV-97 through IV-105 of the Draft EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives: Alternative H, I feel is the best
alternative, because it leaves the forested
area open.
In the various tools of the trade such as
herbicides, mechanical
tools, prescribed fire, etc. the forest on the ground
Why? make the best decisions.

The USFS has done an excellent job in the
past and I know they will continue to do a
Other: Super job.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First ANNA R. MI Last KOONCE
Street 1607 Grove Hill
City N.L.R. Ar. State MI Zip Code 72116

Tear at perforation

Response to Comments in Letter No. 439

From: Anna R. Koonce

Comment No.

Response

1 Your preference for alternative H was included in content analysis of all comments received. Other alternatives (B, C, E, F, and G) provide essentially a complete "tool box." Please see table II-3 on page II-64 of the Draft EIS for tools available by alternative.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 The analysis of the different alt. and the herbicides was more than adequate

Why? All the herbicides are EPA registered and have had exhaustive research done on them.

Comments on Alternatives:

2 I support Alt. H. This gives the Forester all the options he or she will need to maximize veg mgt and minimize costs on each site.

Why? Alt. C and F call for increased use of manual methods. First of all manual methods pose an increased risk of personal injury to woods workers. Secondly they must be repeated several times thus wiping out any other R.Q.I. on the mgt activity.

3 Finally by causing into public perceptions about herbicides why and not going with what research has shown are safe effective chemicals you are contributing to the current chemical-phobia that has gripped the media and so much of the general public.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Jim Last Schuler
 MI AR Last (Organization)
 Street 809 N. Cedar St
 City Marion AR State AR Zip Code 72110

Tear at perforation

Response to Comments in Letter No. 440

From: Jim C. Schuler

Comment No.

Response

- 1 The Interdisciplinary Team appreciates that you feel an adequate analysis was done.
- 2 We agree with your observation that manual methods increase risks of injury (see pages IV-25 through IV-29 of the Draft EIS). We also recognize the efficacy problem on pages IV-59 through IV-62 and on page IV-128 of the Draft EIS. We did not calculate return on investment. Your preference for alternative H was included in content analysis of all comments received.
- 3 There is no bias toward or against the use of herbicides. The Draft EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Ozark and Ouachita Mountains herbicides are projected to be used on 25 percent of the total acres treated in the preferred alternative F (Draft EIS page II-12). The EIS simply shows that the preferred alternative, with its mitigations and inherent constraints, would achieve needed treatment effectiveness with minimal adverse impacts. Furthermore, the determination of the most appropriate tool for a project must be made at the project level based on a site-specific analysis. A reasonable range of alternative methods, will be examined and evaluated, and IPM principles must be incorporated (Draft EIS pages II-38-41).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 I am against pine plantations on public land. The damage to the overall ecology must be enormous and fatal.

Comments on Alternatives:

2 also spraying in any fashion or method seems very careless with unknown results - both short and long term.

Other:

Learn it to nature herself and quit spending all this money on roads, etc. to benefit the loggers and mill owners. Respectfully submitted, Bill Lamb

Why?

Learn it to nature herself and quit spending all this money on roads, etc. to benefit the loggers and mill owners. Respectfully submitted, Bill Lamb

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Bill Last Lamb Middle D. Organization Ark. Forestry
Street Wingfield Circle City Little Rock Ark. State Ark. Zip Code 72205

Tear at perforation

Response to Comments in Letter No. 441

From: Bill D. Lamb

Comment No.

Response

- 1 Suitability of national forest lands for any particular species is not within the scope of this EIS. This topic and issues surrounding it are discussed in Forest Land and Resource Management Plans.
- 2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

3

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Timber outputs and road construction are not within the scope of this EIS. These topics and issues surrounding them are discussed in Forest Land and Resource Management Plans.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

I agree with A.F.A. decision
Thank you for the information

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Oliver MI Briggs Last Ret. USFS
Street Box 139
City Briggsville Ark. State Ark. Zip Code 72828

← Tear at perforation

Response to Comments In Letter No. 442

From: O. L. Briggs

Response

Comment No.

1 Your support of the Arkansas Forestry Association's position was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives: As a member of the Ark For Action I support the adoption of Alternative H.

Why?

Other:

Why?

(use additional sheets as necessary)

To return, this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Alphas E. Herrington
First MI Last (Organization)
PO Box 36 Arkansas Fordyce
City State Zip Code
Clarendon AR 71701

Tear at perforation

Response to Comments in Letter No. 443

From: Alphas E. Herrington

Comment No.

Response

1 Your preference for alternative H was included in content analysis of all comments received.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives: I SUPPORT ALTERNATIVE H

WHY? I FEEL THE NATIONAL FOREST IS A TIMBER ASSET, AND ALL OTHER ASPECTS ARE SATISFIED UNDER MANAGEMENT CONDITIONS. I BELIEVE THE FOREST SHOULD BE ALLOWED TO MAINTAIN THE LAND'S PRODUCTIVITY. TO DO THIS THEY NEED ALL THE TOOLS AVAILABLE OTHER:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
JESSE R VAN DEE WoollyWoolly Sewing
Address: 4625 S.
City State Zip Code
DORVILLE AR 71455

Tear at perforation

Response to Comments in Letter No. 444

From: Joseph R. VanDee

Comment No.

Response

1 Your preference for alternative H was included in content analysis of all comments received.

10-28-89

Steve McCurquodale
 Leader, Vegetation Management EIS Team
 USDA Forest Service
 1720 Peachtree RD., N.W.
 Atlanta, GA 30367

Dear Steve,

Thanks for the opportunity to comment on the DEIS for Vegetation Management on National Forests in Arkansas. I have been active in this process and the Land Management Plans since the start. I have also spent many hours in the forest and reviewing Forest Service documents. I hope my comments and suggestions are taken seriously.

I will address each issue with my concerns and suggestions then give my choice of alternatives.

Herbicides:

1. After wading through descriptions, studies, charts, formulas and estimations contained in Volume II of the DEIS, I have concluded herbicides should not be used on the forest for any reason. Poisoning the trees that are classed "Non-Productive" is a gross waste of our forest products as well as unsightly. If a site has to be prepared, all the wood should be cut and used.
2. Poisoning, burning and planting pine trees renders that site useless for other forest uses like hiking, camping, hunting and wildlife habitat.
3. The "Risk" factors concluded in the DEIS on long term effects to human and wildlife lead me away from using herbicides in the forest. There are too many chemicals being used now in our environment that have not been tested over a long period of time or do not have conclusive evidence they don't cause health problems. I go to the forest to be free from these "Risks".
4. Forest users should not be exposed to herbicides in any stage of it's use or deterioration. Campers use the water in the streams for drinking and cooking. This is not the way to manage the forest for all the people.

1

Response to Comments in Letter No. 445

From: Klirk D. Masson

Comment No.

Response

- 1 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.
 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.
 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.
 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10.
 In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.
- 2
- 3

- 4 Sites subjected to herbicides are not inventoried for potential endangered or sensitive plant and animal species. Rare plants are being poisoned, burned and covered with acidic pine needles to the point they can not recover as a species.
- 5 If the decision to use herbicides is made they should at least not be aerially sprayed or used within the watershed of wildness or water supplies.
- 6 Accidents involving herbicides could have worst results, short and long term, than manual methods.

Pesticides:

- 7 Pesticides should not be used on the National Forests. The pests that the Forest Service are concerned about are caused by monoculture pine stands. Pesticides kill other bugs needed for natural deterioration of wood. Insects are the main food source for many animals including the Turkey.

Mechanical:

- 8 Use of large equipment such as dozers and tractors should be limited. Ripping, scarifying and disking leave a long lasting unnatural look to the land and cause erosion. I have seen the erosion downstream from an area that has been burnt and ripped. Raking and piling leaves mounds for years. The forest should be left at or allowed to return to a more natural state.
- 9 Historic and prehistoric sites will be severely damaged by ripping.

Prescribed Fire:

- 10 Poisoning and burning low-yield timber is a terrible waste. If the forest has to be cut, ALL timber should be used. Fires add massive quantities of pollutants into the air adding to an already polluted environment. Fires should not be used for site preparation.
- I have found large piles of charcoal and silt miles downstream from a site being prepared for planting. Some of the debris was higher on the banks than I had ever seen before indicating a higher runoff.

- 4 We agree that threatened, endangered, proposed, and sensitive species may be sensitive to vegetation management. However, we feel that the effects of these species have been adequately evaluated and mitigated in chapter IV, section E, pages IV-81 to IV-84 of the Draft EIS; appendix F of the Draft EIS (Biological Evaluation of the Effects of the Preferred Alternative on Threatened, Endangered, Proposed, and Sensitive Species); and in mitigation measures 1 and 2 on pages II-38 and II-40 and in the other ones on pages II-40-59 that pertain to plants and wildlife in general. Also, in order to prevent unknown impacts on these species, regardless of the method or tool proposed for use, mitigation measure number 2 on page II-39-40 of the Draft EIS specifically states that when adequate population inventory information is unavailable, it will be collected when the affected site has a high potential for occupancy by threatened, endangered, proposed, or sensitive species. Figure D-1 of the Draft EIS traces the process required to insure adequate assessment of potential harmful effects. Additionally, although all Forest Service personnel are not trained as botanists or biologists capable of recognizing threatened, endangered, proposed, and sensitive species, they are trained to seek help from appropriate sources such as Forest Service specialists and State Heritage personnel; and on-the-ground plant identification training sessions are conducted through the Regional Botanist.
- 5 Aerial application of herbicides is not being proposed in the preferred alternative.
- 6 In this document we have complied with the Council on Environmental Quality (CEQ) regulations on incomplete and unavailable information, which require analysis of "... reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) to comply with CEQ's requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are essentially worst case analyses that exceed CEQ requirements.
- 7 Herbicides are the only class of pesticide evaluated in this EIS.
- 8 Intensive mechanical methods such as heavy disking and root raking are not permitted. Mitigation measures to prevent adverse impacts to soil and water are included on pages II-51 and II-52 of the Draft EIS. Data presented in the EIS indicates that using moderate to low intensity tools does not cause appreciable soil erosion or water quality degradation. It is possible that some wildlife will be temporarily disturbed but population recovery is normally very rapid as is disclosed in the EIS.
- 9 We recognize this potential on page IV-126 of the Draft EIS. Mitigation measures 12 and 13 on pages II-42 and II-43 of the Draft EIS minimize significant harm.
- 10 Mitigation measures on Draft EIS pages II-46 to II-51 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. The effects of prescribed fire such as nutrient recycling are discussed on pages IV-85-90 and appendix B of the Draft EIS.
- National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Ozark/Ouachita Mountains. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-116 to IV-124).

Manual:

1. Manual cutting of unwanted vegetation is the lowest impact form of management. This method causes higher chances of injury to workers but creates more jobs. Forest work is a dangerous occupation. Trees are still harvested with manpower so TSI should be done that way too.

11

Biological:

1. This method should be researched more and more biodegradable forms of vegetation control should be used. Cattle grazing is a money losing proposition for the Forest Service. It should not be used a vegetation control tool. Cattle compete with wildlife for what available food is left in a heavily harvested area.

12

Corridor Maintenance:

1. Trails and Trail heads should not be maintained with any other means than manual and that should be for safety only. People trying to enjoy the forest should not have to see cuttings, herbicide use, clearcuts and silted streams. Vistas should be maintained using manual means.

13

2. Right-of-ways should be allowed to grow as tall as possible without bothering utilities. Other sections should be maintained as wildlife food plots. Herbicides should not be used for clearing right-of-ways.

14

3. Non-native species of grasses and plants should not be used along roads and right-of-ways.

15

4. Trading timber for road building and site preparation should be stopped. New roads create more vegetation management problems and logging companies will use large mechanical means for site preparation.

16

5. A great number of existing roads need to be closed and planted as wildlife food plots.

Streams:

1. Buffer zones along streams should be at least 200 feet wide. No vegetation manipulation should occur in this area.

17

11 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut). However, in some activities manual treatments are preferred.

12 No grazing as a biological control is proposed in the preferred alternative.

13 As shown on page II-12, all trail maintenance is done manually under the preferred alternative.

14 See mitigation measures 20, 21, 22, and 23 on page II-45 of the Draft EIS.

15 Provisions of timber sale contracts are not within the scope of this EIS.

16 Road closures are handled through Individual Forest Supervisor's authorities and are not within the scope of this EIS.

17 Buffer strips for timber harvest have been specified in each Forest Land and Resource Management Plan and are outside the scope of this EIS. Filter strips for prescribed fire and mechanical tools, whose width in feet must be at least 30 plus 1.5 times the percent slope, have been shown by research and monitoring to trap nearly all sediment from vegetation management activities before it reaches the stream (Draft EIS pages II-47 and II-52). Buffers for herbicide use (minimum 30 horizontal feet for ground application) have been shown by research and monitoring to keep herbicide concentrations in streams below 0.050 ppm (Draft EIS pages IV-98 to IV-101). Each forest may be more restrictive than these widths, but widening them for our EIS is not justified by the facts.

2. Not enough scientific evidence has been presented to prove that runoff from clearcuts, ripped and disked areas, and burned areas does not adversely affect the streams. I have seen streams that were a milky green color down from cut areas and noticed a decline in the fish population.

Economic:

1. Providing taxpayer grown trees to private companies is not what the majority of the citizens of the United States had in mind for they National Forests. Most timber companies do not pay the workers in the forest a fair wage resulting in a poor local economy. The Forest Service should demand top dollar for the timber and require manual management of sites, creating quality jobs. Local economies should not have to hinge on National Forest timber. The Forest Service should create a plan to wean them from depending on it.

19 As always, I feel the Forest Service does not provide enough of a range in alternatives to choose one that would fit my idea of a proper compromise in management plans.

20 I can not choose the preferred alternative F because it does not provide a fair balance of uses of the forest. I was dismayed to see so much vegetation management proposed and the high use of herbicides. How many tax dollars have been put into research to try and justify the use of herbicides?

21 I can live with alternative D if it was not for the amount of land subject to manipulation. Over 100,000 acres per year being cut, ripped and burned is entirely too much. 25% of that would be a tolerable figure. 30,000 acres should not be burned in the name of wildlife management. Do the wildlife a bigger favor and keep the people, machines and fire out of the woods. I can not, even, see where 10,000 acres need to be prepared for evenage management. The amount of land treated each year should depend on the result of the modified FLMP for the Ouachita Forest which should be lower than projected in the Vegetation Management document.

When deciding which alternative to choose people have to weigh tangible results, like timber sales and jobs, against intangible things, like beautiful fall colors, walks in native woods and drinking from a mountain stream. People in favor of the intense management are only thinking of dollars and not common sense.

Thanks again for allowing me to comment. I hope a fair balance of forest uses can be achieved while protecting the long range health of the forest for future generations.

Ruth A. Wasson

Kirk D. Wasson
32 Sierra Court
North Little Rock
AR 72118

18

National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

19

A reasonably full range of alternatives is presented. Eight alternatives are developed in response to issues and management needs. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. Experience shows that "all or nothing" alternatives aren't very useful analytically, do not respond well to issues, and are technically infeasible. For example, a 100% fire option would prohibit mid-story, and release treatments. One possible consequence would be the loss of some T&E habitat. The theme of each alternative (chapter II, section B) greatly influences methods used and numbers of acres treated by each method.

20

The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.

21

Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

1

Comments on Alternatives: I support Alternative H.

Why? Common sense indicates for maximum vegetation production Alternative H will do the job. Other: It is a satisfactory number

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name/First MI Last (Organization) Roland R. Remmel
Signature Dept. of Ag
City Little Rock Arkansas
State Zip Code 72207

Tear at perforation

Response to Comments in Letter No. 446

From: Roland R. Remmel

Comment No.

Response

1 Your preference for alternative H was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Endorse Alternative H.

Why? Alter of thorough scientific analysis make by by - Ask Forestry Serv. I think this best way to go.

Comments on Alternatives:

...

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Last (Organization)

Street City State Zip Code

Tear at perforation

Response to Comments in Letter No. 447

From: Robert I. Jones

Comment No.

Response

1 Your preference for alternative H was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

I recommend Alternative H as recommended by the Arkansas Forestry Association. I personally don't know enough about the subject but they've studied it carefully and are trying to do their best for both the timber user and the general public.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Glen J. Feldman
P.O. Box 1059
Signature: Glen J. Feldman
City State Zip Code: Harrison, AR 72602-1059

Tear at perforation

Response to Comments in Letter No. 448

From: Glen J. Feldman

Comment No.

Response

- 1 Your preference for alternative H was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: There is not enough data available to determine safe amounts of herbicides to use anywhere, anytime, then.

Why? Herbicides will never be safe for anyone or anything. I was exposed to chemicals in large amounts & there were ill for seven years and has cost me thousands of dollars in health bills. Don't tell me these chemicals are safe. Dumb!

Comments on Alternatives:

Support alternative D and E.

Why? The risks are not acceptable for herbicide use and I do not believe public lands should be managed with them.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Lisa R Muldoon (First MI Last) (Organization) c Inland County Audubon Society
Street: 412. Pine St
City: Ash Springs OK State: Zip Code: 73082

Tear at perforation

Response to Comments in Letter No. 449

From: Lisa R. Muldoon

Comment No.

Response

1

While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages 11-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2

Your preferences for either alternative D or A were included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

I am in support of Alternative H for the Vegetation Management on 2.7 million acres of forestland in Ozark, St. Francis and Ouachita National Forests.

Why? Alternative H will provide for effective, long lasting, and economical methods of vegetation control.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
John L. Dobbins - Soil Cons. Service
Street: 1506 E. 72nd St.
City: Lexington, AR 75502
State Zip Code

Tear at perforation

Response to Comments in Letter No. 450

From: John L. Dobbins

Comment No.

Response

- 1 Your preference for alternative H was included in content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond. Please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns

Comments on Scientific Analysis:

Why?

Comments on Alternatives: Seeing my aunts hair fall out after she let some of the mix on her shirt made me a believer. The story was untrue about herbicides being safe. Why? I'd rather see more fire manual work, etc. of absolutely no chemicals. In other words, either A or D. Thank you.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Roderick G Wright
HCR 32 BX 31
Street:
Bass AR 72612
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 451

From: Roderick G. Wright

Comment No.

Response

1 Your preferences for either alternative A or alternative D because they do not use herbicides were included in content analysis of all comments received.

2, 4, 5-T is not proposed in this EIS. The herbicides evaluated are found on pages II-26-38 of the Draft EIS. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 This ridiculous questioning of '084
Why? the well experts is a waste of time
and money. Follow the recommendations
of professional foresters and manage
Comments on Alternatives: accordingly for a profit.

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Rob K. McCarland
Box 5, Box 238
City: Prescott Ark. State: Ark. Zip Code: 71857

Tear at perforation

Response to Comments in Letter No. 452

FROM: Rob K. McCarland

Comment No.

Response

1 Public participation is an integral part of national forest management. There is also a regulatory basis found in 40 CFR 1500-1508.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 **Comments on Scientific Analysis:** *At least a certain amount of faith has been put in the chemical company's long term proven safe path with their track record on DDT, PCB and many other chemical compounds. This assumption about a "safer" path is an extremely unproven one by the very large proportions of input on the environment and risk to human health. Why have we allowed them to proceed with untested, unproven, chemical agents? To make it look good on paper & increase the chemical sale. To make life in a gamble, but the cost of potential impacts on this land is totally unacceptable! If you think the medical/industrial budget is shared now, just what chemical use Comments on Alternatives: on the scale as a health care bomb taking away our quality of life.*

2 *For this reason I accept only alternatives A & D*

3 **Why? Manual only:**

4 *I believe public lands held in the public trust for future generations should not be drastically altered or to the native vegetation and any perturbation. Management should consist only of the harvesting of timber, making sure, with the best impact on the environment. "Fire Smothering" if it is really profitable should be left totally to private lands.*

The current clearing of old growth spruce & fir in USFS. The people. We are building our retirement home, using public pine woods as a unit of effort for. The price must be kept up where it is here No. 1 lumber. There can be a real forest to turn into a timber forest.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: *Jerry Vance* (First, Last, (Organization))
 Street: *HC R 21 Box 213*
 City: *Day* State: *Ar* Zip Code: *72628*

Tear at perforation

Response to Comments in Letter No. 453

From: Jerry & Sue Vance

Comment No.

Response

- 1 The economic analysis presented in the Draft EIS is, for the most part, qualitative. Table IV-18 clearly discloses that per acre costs of herbicides are higher than manual but lower than mechanical on an average. However, discussions in chapter IV, part C, include effectiveness of different treatment methods, which tends to offset some of the lower initial costs of manual methods due to the need for re-treatment.
- 2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 3 Your preference for alternatives A or D has been included in the content analysis of all comments received.
- 4 As a result of public comments in the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 4 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

RED ALERT! RED ALERT! RED ALERT! RED ALERT!



RED ALERT! RED ALERT! RED ALERT! RED ALERT!

HERBICIDE USE IN OUR NATIONAL FORESTS!

United States Forest Service (USFS) has just completed the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains and has requested public comments on it by November 6, 1989. Summary copies should be available at all local Forest Service offices.

USFS defines Vegetation management as manipulating plants by means other than timber harvest such as site preparation, maintenance of road and utility rights-of-way, and timber stand improvements. These include the killing of undesirable vegetation, for timber management purposes, such as dogwoods, rebuds, red maple, and even oak and hickory in stands the USFS manage for pine. Methods planned for use include herbicides, manual, mechanical, fire, and biological means. USFS preferred alternative proposes to use a mix of all these methods on 101,174 acres/year, with the planned use of herbicides on 24,492 acres/year in Arkansas.

--0--

NCWA is a nonprofit community organization incorporated in 1980 to increase public awareness of critical environmental issues. We believe that the use of herbicides poses an unacceptable risk to us and the environment and feel strongly that public land should not be managed with their use.

Please take 15 minutes to read these pages and write down your comments on postage paid form and mail it in by Nov 6, 1989. We've enclosed suggestions for substantive comments with a list of possible reasons as to "why" you feel your comment is valid. Add your own emphasis and make your own personal comment (THIS IS MOST IMPORTANT!). Finally state which alternative you support or prefer. Only alternative A & D propose no herbicide use. Handwritten comments are fine.

This will be your last chance to comment on vegetation management for at least another 10 years. Together we can make a difference. Previously, similar plans in Region 8, received only 348 comments from a total of eight states. We ask your support to end herbicide use in our National Forests now! For further information contact: NCWA, Box 189, Jasper, Ar. 72641 or call 501-446-2374. We will get back with you as soon as possible, thank you.

SUGGESTIONS

for

Substantive Response to

U.S.F.S. VMDEIS

I am opposed to any future herbicide use by the USFS for vegetation management because:

- 1) of extensive "data gaps" in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, and III-66 & 67, vol 1.
- 2) VMDEIS makes unjustified assumptions about "acceptable risk" involved with herbicide use. Before one can determine if a risk is acceptable it is necessary to ask the question, "acceptable by whom?" The use of herbicides poses an unacceptable risk to me through possible ground water contamination, adversely affecting my quality of life.
- 3) of significant need for further research to fill these data gaps as stated on page IV-147, vol 1.
- 4) VMDEIS makes arbitrary use of quantitative risk assessment without an adequate data base, which was lacking for the majority of herbicides proposed for use.
- 5) no qualitative risk assessment was performed to determine the accuracy and verifiability of data used to fill large data gaps. Many times no risk was assumed even though no studies had been done to determine all possible effects.
- 6) herbicide use on public land involuntarily exposes those extremely sensitive people which exhibit a range of reactions from lower-than-normal "no observed effects levels" to many possible toxicity reactions thus greatly endangering their lives, and exposing them to unacceptable risk.
- 7) VMDEIS fails to assess final responsibility for any unforeseen adverse environmental impacts. The chemical companies that make the herbicides have warnings on the labels which read "use at your own risk". USFS application contracts place the responsibility for any spills on the contractor. Finally, we the people will bear the ultimate responsibility for these unforeseen impacts if we allow herbicide use to continue.
- 8) there are huge data gaps in the research information used for developing the risk assessment portion of VMDEIS and the scientific uncertainty in modeling used to fill these gaps was not discussed in the document.
- 9) it is my perception that the risk is unacceptably high and feel justified in recommending that our public lands not be managed in this way.

10) VMEIS did not fully analyze all potential impacts and risks to water quality in geological regions containing karst areas, especially where lime sinks have created areas of rapid internal drainage during heavy runoff.

11) there are no water quality standards for most herbicides planned to be used since EPA and individual states have failed to set any standards for them. USES claims to meet the strictest drinking water standards set by EPA of .100 ppm for 2,4-D the only one they have information on. The rest are assumed safe if amounts don't exceed those for 2,4-D.

12) due to a lack of scientific data, VMEIS does not adequately address the adverse impacts of burning herbicide treated vegetation. It says nothing of possible dioxins, dioxins, chlorine gas, hydrochloric acid, cyanide, phosgene gas, or chlorine dioxide being contained in the smoke from prescribed burnings in these same areas. I recommend that there be no prescribed burnings in any stands treated in the past with 2,4-D which contained a small amount of TCDD, the deadliest form of dioxin and poison known to mankind. These dioxin breakdown products are extremely long lived and could be spread from the site in the smoke since they are not destroyed at low temperatures.

13) Quantitative risk analysis is a relatively new tool and does not have a proven track record for accuracy when predicting results. Such a risk analysis was used in California but failed to predict the effects of severe poisoning from eating watermelons sprayed with a pesticide at 1/5 the levels predicted to cause any effects.

14) worst case analyses are over conservative in their estimates for extreme spills. What if a helicopter crashed into a refill tanker? What if vehicle carrying herbicides crashed and spilled its entire contents? Spills onto workers this last April on the Buffalo District exceeded the project's worst case scenario thus proving that even the finest mitigation measures work best on paper.

15) LC50 and LD50 are inadequate alone to determine risk to humans and wildlife since they take into account only acute toxicity. Long-term, low level toxicity studies have not been done to predict the cumulative, synergistic long-term effects.

16) there are no studies of the synergistic and cumulative effects using full formulations of herbicides and their secret inert ingredients. This is a serious oversight since one of the inerts in 2,4-D was dioxin.

17) the "no observed effects levels" are too high, and are based on modeling and guesswork from rabbit and rat studies in order to estimate effects upon humans and are completely unverifiable.

18) the risk assessment does not consider whether some of the herbicides may be tumor promoters or enhancers, or initiators of cancer in combination with other compounds that could cause cancer.

19) neurological and immunological data is unavailable for all herbicides listed since EPA does not require these at the present. These impacts are not considered. Hexazinone applicators have frequently complained of headaches from breathing vapors all day, a situation which indicates a need for these studies.

Response to Comments in Letter No. 454

From: Kirt Sexton

Comment No.	Response
1	LD50 and LC50 are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.
2	Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.
3	Based on data presented in the Risk Assessment this concern was not felt to pose a reasonably foreseeable potential for causing significant effects. While continuing to monitor the scientific literature we have as yet no evidence to suggest that there is a legitimate concern in this area.
4	We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects. The definition of headache = neurotoxic effect is too narrow a focus of this symptom.

20) bioaccumulation of herbicides is insufficiently assessed since studies used to project long-term bioaccumulation were only 4 day elimination rate studies. Studies in Sweden have found herbicide residue levels up to 6 ppm in liver and kidney tissues of 250 different wildlife species. This indicates that herbicides are much more persistent in the food chain than previously believed, and it increases the possibility for bioaccumulation in humans who eat those species of wildlife.

21) of unmentioned possible adverse effects upon biodiversity on National Forest land since herbicides disrupt the natural ecological processes through reduction in biomass and composition, and abundance of ground cover to protect soil from erosion in recently cutover areas.

22) herbicide use does not contribute to the local economies as well as manual methods of vegetation management. Manual methods would result in the highest rate of employment in an area with one of the highest rates of unemployment in the south. This would mean increased local returns to the economies: over \$40 more per acre than with herbicide use.

23) large data gaps exist in research regarding the breakdown products and metabolites for full formulation of herbicides and their inert ingredients.

I am further opposed to use of any vegetation management methods on threatened, endangered or sensitive (TES) plant and wildlife habitat because. If left alone, these areas will have a more stable environment with fewer human disturbances and more natural disturbances taking over to which TES species are already adapted.

I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice on public lands.

VMDEIS fails to consider a full range of alternatives per NEPA when it did not include an integrated pest management alternative such as presented by Norma Greir in Region 6 emphasizing prevention for need of VM and allowing natural processes to work, employing least invasive and least toxic methods, and using follow-up monitoring and evaluation to help fill in data gaps. It failed to consider a full range of alternatives when it did not include an alternative with reduced number total acres other than alternative A. These total acres to be treated are tiered to LMRP's which are currently under appeal and revision concerning overreliance on even aged management techniques which necessarily involve more site prep and TSI work.

Therefore I support, by reference, the NCPA modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.

>>>> Finally, I do not believe the risks are acceptable for herbicide use and do not believe that public lands should be managed with them. Thank you for this opportunity to comment.

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

The Deer killed in or around areas sprayed have been having strange spots on their lives - The deer have been disappearing. Have been the spray killed them.

2

Comments on Scientific Analysis:

Vepral L - Flammable, Dangerous - is breathing, just plain hazardous.

When are you people going to wake up? Why? Contains cancer causing elements - just like everything else you use.

Are you trying to kill all of us for a few dollars? Comments on Alternatives:

Alternative A is best, let time a nature cure for the forest - this is the only other safe cure.

Alternative D - this is the only other safe cure. Why? Because we are not exposed to any herbicides, it takes years to really know what they can do.

Other: just leave it alone - use selective logging. What does this do to Ginseng? is it still safe?

Why? The forest belong to all of us - each and every one - where there is oak and other hard wood let them live. Stop trying to change what God has set forth - you'll lose in the end if you don't do it right (use additional sheets as necessary).

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

I live in Newton Co, Ark.

Name: Mary A. Freeman
City: Harkness, AR
State: AR
Zip Code: 72655

Tear at perforation

Response to Comments in Letter No. 455

From: Mary A. Freeman

Comment No.

Response

1

The properties of hexazinone are discussed on pages 3-21, 3-33, 3-40, and 3-48 of the risk assessment in appendix A.

2

Your preference for alternative A or D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.

Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

3

We are unaware of any reports of liver spots as a result of the herbicides permitted for use in our program. We will continue to monitor available information to determine if there is a problem and, if so, if it is related to our program. All scientific evidence supports our conclusion that herbicides can be used in a low-risk manner if proper mitigation is followed.

The unknown risk ARE too high - I don't believe
The USDA really knows what they ARE dealing with.
Please stop straying the
Forest!

The people in My area ARE all getting
SICK - Neurological problems, Activities -
Heart problems - young people - Teens
Having problems old people have - Aging
younger + younger - . . .

MARY FREEMAN
 HCR 72 BOX 34
 MT SUDA, AR
 72655

To the:

United States Dept. of Agriculture
 United States Forest Service

To MAKE THIS STATE MENT MORE CLEAR -

Seeing I've made a mess of the response
 form.

1.) Balance of Resources - I understand people cutting
 trees - yet here in Newton Co. Ark. most of the
 loggers really make a mess of our forest - you
 cannot walk through where they have cut -
 Pine does not do as well as hard wood. The
 animals suffer if we over cut or kill off
 too much - and I believe we ARE at a point
 where its time to stop killing hard wood
 and replacing it with pine - I'm out there
 and I know and see what is happening.

2.) Fire - This can be a good tool at times
 I'll take your word for it.

5 3.) Manual Method - people in this area need
 work - men + women - put them in the

forest - cleaning up. Someone needs too.

4 HERBICIDES - NO! I am against this
 method 100%. Haven't we done enough

to poison our environment? Why kill the good
 to get rid of a few bad - Can you tell me

4 As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

5 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

who is really behind this? the forest
 service or the chemical ~~people~~ people?
 would they spray this stuff in their
 own back yard - where there kids
 play - would you - tell the truth -
 yet you are forever doing it to us.
 you sprayed 2-4-5-D in our back
 yard and where we have to walk.
 I know it's been years - they said
 it never goes away. Do you really
 know what this New stuff does?
 Can anyone honestly tell me?

6 This method is totally unacceptable.
 If this is a Nation under God, with
 liberty & justice for all put this
 on a ballot - ask the people at the
 polls and see what they say then.
 Alternative A is the best and
 the one I prefer - If those people
 cannot except that than D.
 May God have pity on us all
 if you cannot see fit to
 leave those bottles of chemicals
 alone - What a Chemical dependent
 society we've become - Thank you for
 your time. Sincerely Mary Freeman

6 Your comment that risks in the vegetation management programs proposed
 in the Draft EIS are unacceptably high was included in the content
 analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The analysis fairly thoroughly covered the issue, but disagreed with the final decision on the preferred alternative.

Why? The scope of alternative treatments is too narrow.

Comments on Alternatives:

I like alternative H, and support it as being the most appropriate.

Why?

Alternative H provides a better balance of methods to use in meeting your objective. I strongly support your objective of protecting human health & safety, & promoting long-term health & productivity of the national forests. Other: I feel strongly that aerial application of EPA approved herbicides be used in the National Forest. All approved herbicides should be in the arsenal to use.

Why?

This keeps more options open. Sketch prescriptions should be taken. Every known avenue related to negative management should be kept open.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JERRY R. BRYANT (WEYERHAEUSER Co.)

Name: First MI Last (Organization)

Street S.R.10, 114 SARREY LANE

City HOT SPRINGS, AR 71909

State Zp Code

Tear at perforation

Response to Comments in Letter No. 456

From: Jerry R. Bryant

Comment No.

Response

1

Your preference for alternative H has been included in the content analysis of all comments received.

Your preference for retaining all legal and environmentally sound tools for use in vegetation management has been included in our content analysis of all the comments received. Alternative H provides for analysis of the full range of treatments and their effects.

2

We agree that aerial herbicide application can be economical and effective. It is considered an option in alternatives G and H. However, we are unaware of any sites within our study area where it is essential to completion of the job.

We evaluated only those products which have been identified as being proposed for use by our on-the-ground managers. There are many other products which are available for use, but our failure to analyze them does not indict them in any way. It just means we don't plan to use them.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

1 I would like to see more on-site study done throughout the year by Botanists as well as foresters. Why? Vernon Bates' study in the Ouachita N.F. has shown that there are plants here that need further study before they are destroyed by herbicide and clearing.

2 Comments on Alternatives: I prefer alternative A, but if that is not possible-D.

3 Why? Herbicides are not used in either of these alternatives, should be maintained. Natural diversity should be maintained. The forest should not be managed for timber and commercial interest at the expense of other uses and users of the forest.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization) Lana C Ewing
Street RT 2 Box 25688
City State Zip Code Mena AR 71953

Tear at perforation

Response to Comments in Letter No. 457

From: Lana C. Ewing

Comment No. Response

- 1 Mitigation measure 1 on pages II-38 and II-39 of the Draft EIS requires a site-specific analysis when projects are proposed. Mitigation measure 2 on pages II-39 and II-40 addresses threatened, endangered, proposed, and sensitive species.
2 Your preferences for either alternative A or D were included in content analysis of all comments received.
3 We agree and by law our forests are mandated to be managed for multiple use purposes.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1

Comments on Scientific Analysis: when entire countries and banning the use of herbicides in their national forest programs for the obvious reasons of water pollution and the health hazards to humans in direct and indirect contact with such herbicides. I find it appalling that the USFS wants to spray nearly 25,000 acres in the Ozark and Ozark mountains. Yes, I am opposed to any herbicide use in our forest. I believe that the impact assessments of impact on water quality are inaccurate at best. It is quite impossible to assess such levels of herbicides for which no EPA Standards exist. As in medicine, the USFS motto shall be: "First do no harm." I believe that the USFS has a responsibility to be an innovator rather than a technological laggard in terms of comments on Alternatives: new concepts and techniques in forestry practices. banning herbicide use while USFS promotes it.

2

In terms of alternatives, I would support either Alternative A

GD

Why?

Other:

Why?

Tear at perforation

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name Becky Bryant
 First Becky Last Bryant
 Middle Box 871 (Organization)
 Street Fayetteville, AR 72702
 City Fayetteville State AR Zip Code 72702

Response to Comments in Letter No. 458
 From: Becky Bryant

Comment No.

Response

1

Appendix A contains a Risk Assessment which deals with unknown effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Potential effects on water are detailed in appendix C as well as part G of chapter IV. By applying herbicides at low rates (Draft EIS page II-53) and using buffers (Draft EIS page II-57 and II-58), surface and ground water will be protected very well (Draft EIS pages IV-97 to IV-106). Herbicides used on national forests will not build up in the environment; use is restricted to herbicides which have half-lives of 2 months or less and are essentially decomposed in 2 to 12 months (long before any subsequent application).

2

Your preferences for either alternatives A or D were included in content analysis of all comments received.

← Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

1 In the meeting at Mena on 10/25/89, The Forest Service people repeatedly talked of modeling in the Vegetative Management analysis and was unable to cite any on site testing in the Forest. Therefore I recommend more on site testing .

Why?

Present computer modeling in the Forest Service has projected value for 48 deer per square mile based on the amount of browse available from various types of timber harvest. This is not fact, but only speculation as to how many deer might be present.

Comments on Alternatives:

2 We of the Mena Nature Club recommend the Alternative "A" as the best alternative.

Why?

3 We feel that the Forest Service has placed too much emphasis on the commercial aspect of Forestry and ignored the other aspects of forest management, therefore we do not recommend any reduction of our native diversity through various vegetative management practices of herbicides, etc.
Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Bruce W. Ewing, Pres. Mena Nature Club
 Name: First MI Last (Organization)
 Route 2 Box 256--BB
 Street Mena Ar. 71953
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 459

From: Bruce W. Ewing, Mena Nature Club

Comment No.

Response

1 While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Your preference for alternative A was included in content analysis of all comments received.

3 Tables II-2 and II-7 indicate that alternative A also decreases diversity. This issue is usually an NFMA issue which is dealt with through Forest Land and Resource Management Plans and in site-specific analyses. However, the Draft EIS discusses habitat alteration, species composition, and successional patterns in sections C and D of chapter IV.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

In the meeting in Mena on 10/25/89, The Forest Service repeatedly talked of modeling in the vegetative management analysis and was unable to cite any on site testing.

The Forest Service mentioned gaps in their data that they have responded to as best they can. We recommend on site testing.

Why?

We feel that the best way to analyze effects, is testing in the field to accommodate all of the various reactions and interactions of vegetation management with the natural environment of soils, vegetative cover and the animals exposed to the action.

Comments on Alternatives:

We recommend that you adopt alternative "A" for vegetative management.

Why?

Why?

We do not favor any decrease in our native diversity through vegetation management. Past performances of the Forest Service has demonstrated that much of our native diversity would be lost through forest harvest methods that place more emphasis in commercial harvesting than in preserving native diversity.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Bruce W. Ewing - President Arkansas Native Plant Society
 Name: First MI Last (Organization)
 Route 2, Box 256-BB

Street Mena Arkansas 71953
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 460

From: Arkansas Native Plant Society

Comment No.

Response

1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations, 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used. Volume I and each of the appendices list specific references (often based upon field observations) utilized to analyze effects.

We do agree that additional on site testing is an essential link in the chain and this is being done as personnel and funding permit.

2 Your preference for alternative A was included in content analysis of all comments received.

3 Harvest methods and related issues are beyond the scope of this EIS. They are discussed at length in Forest Land and Resource Management Plans. See also our response to comment 2 in letter 461.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I would like to see more on site monitoring within the forest

Why?

From our meeting in Mena on 10/25/89, it was apparent that much of your data is based on modeling. Present computer modeling has projected value for 48 deer per square mile and 10,000 harvest mice per square mile which is not realistic.

Comments on Alternatives:

I choose alternative "A" (No Action)

Why?

I do not favor decreasing our native diversity in favor of the commercial species.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Tear at perforation

Response to Comments in Letter No. 461

From: Bruce W. Ewing

Comment No.

Response

1 Your preference for alternative A was included in content analysis of all comments received.

2 Tables II-2 and II-7 indicate that alternative A also decreases diversity. This issue is usually an MFMA issue which is dealt with through Forest Land and Resource Management Plans and in site-specific analyses. However, the Draft EIS discusses habitat alteration, species composition, and successional patterns in sections C and D of chapter IV.

Bruce W. Ewing
Name: First MI Last (Organization)
Route 2 Box 256-BB
Street
Mena Ar. 71953
City State Zip Code

Please do not pull off anymore of our hardwood forests! I am a retired College Professor and have lived on Highway 7 in Northern Arkansas. I love every tree that we have left and they are disappearing much too fast, especially in recent years. You already know the value of our trees, to our water levels, our tourists attraction, the quality of our air and for the look of their beauty. I think you also know the dangers of using the chemicals in our forests or anywhere else. We are slowly poisoning our world →

Response to Comments in Letter No. 468

From: Helen Terry Marshall

Comment No.

Response

1 Potential herbicide effects are discussed at numerous places in the Draft EIS. Appendix A contains discussions regarding effects on humans and wildlife. Appendix C contains discussions about effects on soil and water. In Chapter IV, 11 environmental elements are analyzed for possible effects from all vegetation management methods including herbicides.

Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

There are many of
us who beg by you-
please help us keep
our trees! No more

2 Clear cutting - be

3 Careful with fire.

We have a beautiful,
wonderful world in

Arkansas - please

help us to keep it.

Arlan Jerry Marshall
1422 Mitchell St.
Conway, Arkansas
72032

2 Clearcutting issues are not within the scope of this EIS. They are discussed in Forest Land and Resource Management Plans.

3 All vegetation management methods have rules which must be followed for successful implementation. Part E of chapter II contains these rules (management requirements and mitigation measures). See especially mitigation measure 1 on page II-46 of the Draft EIS which requires a burning plan prior to implementing any prescribed burn.

11/21/89

To The Forest Service:

I'm opposed to the use of herbicides in

the forest. The

chemicals could be

2 dangerous to hardwoods and animals. I

3 support a plan of selective maintenance in the forest.

Kelly Quinn
18 CoolwoodL741a Rock AR
72202

Response to Comments in Letter No. 469

From: Kelly Quinn

Comment No.	Response
1	Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
2	Appendix A contains a Risk Assessment which deals with unknown effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Part C of chapter IV discusses potential effects on vegetation.
3	Silvicultural systems and harvest methods are not within the scope of this EIS. They are discussed in Forest Land and Resource Management Plans.



P.O. Box 494
Eureka Springs ARK 72632
November 2, 1989

Dear U.S. Forestry Service:

Life in these Ozark mountains and woods is precious and rare. This area is one of the few wilderness areas left in this country. Any action of herbicide use deserves great consideration for its effects, now and in the future.

Such action should consider long-term effects for this area and the entire planet. (Think of past efforts like defoliation in Vietnamese jungles and environmental effects of the loss of South American rain forests.)

I am opposed to any future herbicide use by the USFS for vegetation management because I feel the risk is unacceptably high and I feel that our public lands should not be managed in this way.

Thanking you for the opportunity to comment,

Jan Brown

Response to Comments in Letter No. 470

From: Jan Brown

Comment No. Response

- 1 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.
- 2 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

P.O. Box 224
Winslow, AR 72959
November 2, 1989

U.S.D.A. Forest Service
1720 Peachtree Road, N.W.
Atlanta, Ga.
30367

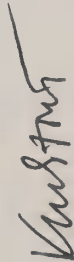
To whom it concerns:

Because November 6, 1989 is the closing date for the Forest Service to receive comments on the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Oauchita Mountains, this letter contains my stand on the ten-year plan.

After seeing the eight alternatives regarding vegetation management, I am convinced that the only one which most sensibly and responsibly safeguards the entire environment--plant, human, and animal--is Alternative A, which uses no herbicides.

Therefore, I urge the Forest Service to choose Alternative A.

Sincerely,



Ken Stout

Response to Comments in Letter No. 471

From: Ken Stout

Comment No.

Response

1 Your preference for alternative A was included in content analysis of all comments received. Note that alternative D also uses no herbicides.

472

14300 CHEMUNIA PARKWAY
#3202
LITTLE ROCK ARKANSAS 72211
November 3 1981

Quachita/Ozark VMDELS
USDA Forest Service
1720 Peachtree Road, NW
Atlanta GA 30367

Sir

Relative to the alternatives using herbicides and machines
I recommend Alternative F for the reason that I have faith in
the decision that Forest Service personnel can make.

For your information I am a retired USDA Soil Conservation
Service Forester 1938-1975 after one year with the State Forestry
Commission 1937-38; a graduate forester of LSU 1937. All of
my service has been in Arkansas. As an SCS forester I worked
with a SCS-USFS (Southern Forest Exp Site) for several years on Site

Andy Swamps in the Ouachitas and Ozarks.
At present I am a part time consulting forester however

I am offering my services without a fee to USFS to assist
the Ouachita National Forest on this present problem with the
"exterminator".

Sincerely
11/03/81
D. Bolter

Response to Comments in Letter No. 472

From: Max D. Bolter

Comment No.

Response

1

Your preference for alternative F has been included in the content
analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened
and expanded several mitigation measures especially for herbicides and
mechanical to minimize possible adverse impact to humans, wildlife, and
the environment and still permit accomplishing the vegetation management
activities in each Forest Land and Resource Management Plan.
Additionally, the amount of selective (vs. broadcast) herbicide
treatments has been increased in evenage and unevenage site preparation,
evenage timber stand improvement, and Forest Service road corridor
maintenance.

Our analysis has disclosed the effects of each method and demonstrated a
need for all methods when applied properly. In trail maintenance and
coplce hardwood regeneration, manual methods are the preferred method.
Where soil tillage is required, mechanical is preferred; and where
hazard fuel reduction is critical, so is prescribed fire. Likewise,
where individual stems need released from competition or control of
sprouting is needed, herbicides are preferred. Proposed herbicides have
been analyzed in detail through the Risk Assessment process (appendix A)
and have made very conservative estimates of risk. This process was
extensively peer reviewed by experts in toxicology and commented on by
EPA, U. S. Fish and Wildlife Service, and the Center for Disease
Control. As a result, we believe that the many mitigation measures
listed in chapter II permit an acceptable level of risk to humans,
wildlife, and the remainder of the environment. Requirements of special
importance are reduced herbicide application rates, increased use of
selective application techniques rather than broadcast methods,
protective equipment for workers, protection of non-target species,
planning to prevent spills and accidents, buffering of water sources and
private property, and required public notification.

11710 Pleasant Ridge Ter.
#1302

Little Rock, Arkansas
72212

November 3, 1989

Owchita-Ozark UMDEIS
USDA Forest Service
1920 Peachtree Road, N.W.
Atlanta, Ga. 30367

In view of the present forest management plan, I recommend the minimum use of herbicides (alternative B) as the most effective method of protecting wildlife, plants, soil and water quality. Most important are areas which may contain endangered species, and relatively undisturbed areas. (of course including any unassessed area.)

Are the methods safe by standards which confidently ensure the future? Is the data sufficient? For these reasons, less vegetation management and more uneven age management will progressively accomplish the objective of maintaining and protecting. Other methods such as mechanical treatment would then be reduced, and hopefully, roads being built would decrease.

Along with the minimum use of herbicides is the recommendation that thorough research be completed where needed.

Sincerely,
Jean O. Evans

Response to Comments in Letter No. 473

From: Jean I. Evans

Comment No.

Response

1 Your preference for alternative B has been included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2 Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

3 We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.

FAMILY MEDICINE CLINIC, P.A.
3100 MALVERN SUITE 304
HOT SPRINGS, ARKANSAS 71901
501-321-9292

November 3, 1989

VMDEIS Comments
USDA Forest Service
1720 Peachtree Rd. NW
Atlanta, GA 30367

Dear Sirs:

I appreciate the opportunity to comment on the proposed Vegetation Management Plan for the Ozark/Ouachita Mountains.

I am greatly concerned over the proposed plans for herbicide usage in the lands administered by the U.S. Forest Service. As a physician I have treated patients who were acutely poisoned by such chemicals. I have also treated patients in my office who were suspected of suffering adverse reactions (headache, nausea, weakness, etc.) to chronic exposure to herbicides and pesticides. I am not convinced the scientific community is able to give any kind of long-term guarantees on the safety of either acute or chronic exposure to these chemicals.

I do not think it is right for the management arm of the U.S. government having the responsibility to manage these lands to be the agent which introduces these potential health hazards. In addition, this risk would be encountered by every man, woman, and child coming into contact with the chemicals. These people would possibly not even be aware of the potential hazards they could experience by enjoying a simple national forest outing.

This discussion is centered on human health concerns, but another very important consideration is the risks presented to the fauna of the forest as well as possible adverse reactions in non-targeted plants. I am not convinced the research is acceptable for total reassurance (as you seem to have softly admitted in the Environmental Impact Statement).

In summary, I would urge vegetation management for the entire forest be accomplished without herbicide usage. I think the possibility of slightly less timber yield is greatly outweighed by the avoidance of unknown risks to the entire ecosystem. Thank you for your time and attention.

Respectfully,

John B. Simpson, M.D.
John B. Simpson, M.D.

JBS/jbh

Response to Comments in Letter No. 474

From: John B. Simpson

Comment No.

Response

1 We feel that the examples pointed out are anecdotal and not case-controlled studies. The information presented here is inadequate for further analysis: which herbicide or herbicides was used; what food was ingested during the operation; were all safety measures followed; was the specific sensitivity (herbicide or additive) identified; etc. While recognizing your concern, we have no data supporting the actual cause.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which are perceived as posing undue risk.

3 Evaluating wildlife and aquatic species risk using LD50 and LC50 data is the method described by EPA in the EPA Office of Pesticide Programs' document "Hazard Evaluation Division--Standard Evaluation Procedure: Ecological Risk Assessment." For the EIS we have accepted and utilized this procedure. Additionally, the herbicides do not bioaccumulate (page 8-2 of appendix A), so cumulative effects are only likely where multiple exposures are received in a short period of time. We agree that acute toxicity is a poor indicator of possible long-term health and reproductive risks to wildlife. Where available chronic and subchronic toxicity tests are reported. Gaps in the data are acknowledged and modeling of surrogate species is used to estimate potential long-term effects.

Route 2, Box 208A
Mena, AR 71953

Nov. 2, 1989
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

Attached herewith are my comments
on your DEISM in the Ozark/Smack-
ita Mountains.

Cordially yours,
Milburn W. Blanton, Ed.D.

11/2/89

*Comments on the DEIS-VM In the Ozark/
Ouachita Mountains*

By Milburn Blanton

Your Analysis of Herbicides On Environment

Your analysis of the effect of herbicides on the environment for the Ozark/Ouachita Mountains is not based upon actual testing of the increased amount of the herbicide used in a specific area found in the animals, air, and water after its application. Rather it is based upon the characteristics of the herbicide studies of others based upon unspecified methods and control factors. For research to be scientific and valid all the possible factors which may affect the outcome of the research must be controlled except for the unknown which is sought.

In addition:

- 1. I did not find any information on the result when the herbicide breaks down into its simple elements and these elements recombine with other element in the soil or water.*

Response to Comments in Letter No. 475

From: Milburn M. Blanton

Comment No.

Response

1

We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2

This topic is touched on page 4-25 of appendix A; however, we have opted to refer to USDA Handbook No. 633 rather than to restate its findings. Other discussions are found in appendix C.

2

which alternative is best for the management of the People's forest is comparable to permitting the Pentagon to evaluate its own methods and means of providing an appropriate defense of our country.

3. In the DEISVA Sec. 8, P. 8-1 is stated, "For wildlife risks the criteria used by EPA in ecological risk assessment (EPA, 1986) were used to judge the absolute risks to the different representative species and the relative risks among the 14 herbicides and additives."

On the same page, under Wildlife Toxicity Surrogates, is the statement, "There is a considerable amount of uncertainty in the toxicity data and methods used in the wildlife risk assessment."

I appreciate the author of the last quotation trying to be honest concerning the methods used to determine the risks of the herbicides to forest animals - methods which he probably had no part in determining. No true professional scientist would use a surrogate when the real live specimens of the animals subjected to the herbicides are present and available. Neither would such a scientist use a laboratory to simulate the

3 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage H. Through management for these specific goods: alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

4 Use of risk assessments is scientifically accepted, and ours has undergone extensive scientific review (Draft EIS, pages VI-3-4 and V-7-8). Modeling is used in the Risk Assessment to project incomplete or unavailable data. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, we have actually magnified the estimate of risk far beyond what is probable in the field. Where meaningful comparisons could be made between available data, quantitative analysis was done. Where necessary, analogy was used to develop these estimates. Otherwise, qualitative estimates were made. The Risk Assessment looks at a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures under each alternative. The effects of those exposures are evaluated based on what is known about the toxicity of each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community. The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 633. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were made. Acute toxicity testing on the full formulations is part of the available data on each herbicide. The chronic toxicity of the inert ingredients in each formulation is evaluated for those inert ingredients considered by EPA to pose a risk of health effects (Lists 1 or 2).

5 actual field conditions when the actual field conditions are present. The actual field condition which you so mindfully avoided using are the clear cuts you have treated with herbicides by a number of methods, the water in the streams carrying water runoff from the clear cuts, and the animals living near and feeding on the clear cuts vegetation, and the fish and other wildlife living or trying to live, in the streams fed by runoff from the clear cuts.

6 The use of the EPA methods to determine the toxicity of herbicides either indicate naive, seeking an easy way, or hoping to placate the public with information of questionable validity.

The great number of glaring errors resulting in its inability to eliminate major Health Hazards has long since destroyed the public trust which the EPA initially enjoyed.

Summary
Preferred Alternative
 Based on the conditions in the foregoing comments and on the summary statements

5 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

6 See response to comment number 1.

7 Below I prefer Alternative D, the no herbicides alternative.

1. In early June, 1985, Alvin Silbeck, his wife, Arnie, my wife, and I picked huckleberries in a clearing on the Tava Mile Creek drainage. The next day Alvin and I returned to gather additional huckleberries. Shortly after they arrived a group of young men (they appeared to be teenagers) started spraying the foliage of the hardwoods, weeds, and other plants with hand sprayers. They sprayed the entire clear cut. They were wearing short sleeve shirts and ^{short} trousers. They were walking through the plants covered with their spray without regard for personal contamination.

The birds, animals and people who may have eaten huckleberries, grass, shrubs or other plants that afternoon or the next day would have eaten a lot of herbicide. Is this responsible forestry practice?

2. On October 28 this year I was leading a group of 26 other hikers, including a National Forester and his wife, on the Buckeye Trail in the Canby Creek Wilderness Area. Some time ^{of} time during the 7 hour hike, I heard him comment in defense of the manage-

7 Your preference for alternative D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.

Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

8 Incidents such as you described are a major reason why we prepared a vegetation management EIS. The analysis has disclosed where the highest probability of risk are, and if a certain method is used, the necessary safeguards are required. Please see mitigation measures on pages II-38-59 of the Draft EIS.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.

ment of the Ouachita National Forest by the Forest Service. Near the end of the hike while he and I were walking adjacent to one another he stated he thought the people should let the Forest Service manage the Forest like they wanted to.

My comments to him were that:

1. The people no longer trust the Forest Service to manage the Forest equitably for all the purposes for which it was established.

2. I remember when the people did trust the Forest Service to manage the Forest for all its purposes - before they began using clear cutting as the harvest method and herbicides to destroy hardwood growth - before their required management plan called for pine tree plantations to eventually replace hardwood so that 2 of every 3 acres in the Forest would be pine plantations.

3. I also stated that before the people (the owners of the Forest) would let the Forest Service manage the Forest without interference, the Forest Service must earn again the trust and confidence of the people. This can be done only by seeing to change the whole ecology of the Forest by converting it

9 See response to comment number 3.

10 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

6

into a pine tree plantation. The proof of such
 leaving is to stop clear cutting and using
 herbicides in controlling hardwood - herbicide
 which place at risk the not only the forest
 creature but the water which people drink.

Thank you for providing, though reluctantly,
 this opportunity to comment on your
 DEISM

11 While clearcutting is not within the scope of this EIS, it is necessary
 to point out that the generalization about selective cutting is
 generally inaccurate. Selective management may require an increase in
 herbicide use to permit establishment of desirable regeneration (Final
 EIS section I.B).

11



GRADY DESIGN GROUP
FINE ARCHITECTURE
CORPORATE DESIGN
INTERIOR DESIGN
GRAPHIC DESIGN

1/2/89

Dear Sirs -
Re your Draft Environmental Impact Statement
for Vegetation Management in the Grand/Beckwith Mts,
we submit these comments:

We are opposed to any future use of herbicides by
the USFS for vegetation management because it takes the
note is inherently likely to not only the wildlife and other
vegetation, but to all inhabitants of the mountain ecosystem
(i.e. the failure to burn up in water logging) and feel quite comfortable
in recommending that no public land not be managed in this
irresponsible fashion. Broad, there is too great a lack of scientific
data (at least account not found in the document) to justify any use
of herbicide on public land.

We also do not believe, nor recommend, burning of herbicide-
treated vegetation. Please note that the 2,4-D contains a small amount
of TCDD, the deadliest form of dioxin known to mankind.

We support the NCSA modified alternative D with reduced
total acres of vegetation management, the use of mechanical methods with an integrated
on a low intensity basis only. Using manual methods with an integrated
post management program using the methods of Alexander A. as outlined
I am a proponent of the method is a Technology, giving the A.P. in
5/90 and allowing the full of environmental medicine to be in agreement on their
same about the way.

Sincerely -
Mrs. Mrs. Mark Schiefer

210 NORTH 45th STREET
LITTLE ROCK, ARKANSAS 72205
(501) 686-7685

Response to Comments in Letter No. 476

From: Mr. & Mrs. Mark Schiefer

Response

- Comment No. 1
- Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.
- Potential effects from burning treated vegetation are discussed on pages IV-23 through IV-25 of the Draft EIS. Please note that 2,4-D is not being proposed for use.
- Your preference for alternative Modified D has been included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- Comment No. 2
- Comment No. 3
- Comment No. 4
- Comment No. 5

Mena, Arkansas,
3rd November 1989

U.S.D.A. Forest Service,
Gentlemen;

I have explained previously why I thought Clear Cutting and the use of Herbicides should be stopped at once in our National Forests, and go back to selective Cutting, the Money derived from the Sale of Timber is not worth it.

Sincerely

Paul Martin
Paul Martin

1

Response to Comments in Letter No. 477

From: Paul Martin

Comment No.

Response

1 Your opposition to herbicide use was included in content analysis of all comments received. Harvest method and timber sale issues are not within the scope of this EIS but are discussed in Forest Land and Resource Management Plans.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

①

VMD/EIS Comments
 USDA Forest Service
 1720 Peachtree Road NW
 Atlanta, Ga. 30367

I am opposed to any future
 herbicide use by the USFS for
 vegetation management because
 the unnecessary use of herbicides
 poses an unacceptable risk to me
 and my family through possible
 ground water contamination, adversely
 affecting our quality of life.

Due to a lack of scientific data,
 VMD/EIS does not adequately address
 the adverse impacts of burning
 herbicide treated vegetation. It says
 nothing of possible dioxins, dioxanes,
 chlorine gas, hydrochloric acid,
 cyanide, phosgene gas, or chlorine
 dioxide being contained in the
 smoke from prescribed burnings
 in these same areas. I recommend
 that there be no prescribed burnings

Response to Comments in Letter No. 478

From: Charles C. Hawthorne

Comment No.

Response

1 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

See our response to comments in Letter No. 3, Comment No. 2 regarding your concerns about groundwater.

2 See our response to letter 484, comment 12.

② in Army stands treated in the past with 2,4-D which contained a small amount of TDD, the deadliest form of dioxin and poison known to mankind. These dioxin breakdown products are extremely long lived and could be spread from the site in the smoke since they are not destroyed at low temperatures.

The risk assessment does not consider whether some of the herbicides may be tumor promoters or enhancers, or initiators of cancer in combination with other compounds that could cause cancer. Don't our children have a big enough risk of these devastating diseases without VMDEIS' help.

VMDEIS fails to assess final responsibility for any unforeseen adverse environmental impacts. USFS application contracts place the responsibility for any spills on the contractor. So where does

3

4

3 Based on data presented in the Risk Assessment this concern was not felt to pose a reasonably foreseeable potential for causing significant effects. While continuing to monitor the scientific literature we have as yet no evidence to suggest that there is a legitimate concern in this area.

4 We agree, assessing responsibilities is not the purpose of an environmental impact statement.

⑤ that leave us? It leaves us, our children, and our children's children paying for the unforeseen impacts that herbicides place on our land, water, food, and health.

Unforeseen impacts that could be prevented if only the VMEIS would responsibly evaluate the future effects that their herbicides may have on our environment.

It's a shame that we as Americans are allowing so many beautiful trees to be destroyed. But the shame goes even further when we allow them to be destroyed in this manner.

It is our perception that the risk is unacceptably high and we feel justified in recommending that our public lands not be managed in this way.

I am further opposed to use of any vegetation management methods on threatened, endangered or sensitive plant and wildlife habitat because if left alone, these areas will have

5

6

5 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

6 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.

①
 a more stable environment with fewer human disturbances and more natural disturbances taking over to which TES species are already adapted.

I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice on public lands.

VMDEIS fails to consider a full range of alternatives as per NEPA when it did not include an integrated pest management alternative such as presented by Norma Greer in Region 6 emphasizing prevention for need of VM and allowing natural processes to work, employing least invasive and least toxic methods, and using follow-up monitoring and evaluation to help fill in data gaps. It failed to consider a full range of alternatives when it did not include an alternative with reduced number total acres other than Alternative F. These total acres to be

7

8

7.

8

Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.

Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.

Alternatives A and B reduce acreage and alternative H increases acreage from Forest Land and Resource Management Planning levels. Any revisions or changes in Plan direction can easily be incorporated into any preferred alternative and acreage can be adjusted if necessary. We evaluated programs that they existed at the time of our analysis, not as they might be following some uncertain length of time, but we retained flexibility to adjust. Discussions of even-aged management is beyond the scope of this EIS.

IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

⑤ treated are tiered to LMRP's which are currently under appeal and revision concerning overreliance on even aged management techniques which necessarily involve more site prep and TSI work.

Therefore I support, by reference, the ~~NEWA~~ modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.

Thank you for this opportunity to comment.

Mr. Charles C. Hawthorne
and Family

Your preference for alternative modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Mr Steve McConzoldale
USDA Forest Service
1720 Peach Tree Rd., NW
Atlanta, GA 30367

Nov 2, 1989

Dear Mr. McConzoldale:

I have read the Draft EIS on the
Vegetation Management of the Ocala
Mountains (National Forest). I think
God did a pretty good job with the
forests in these National Forests. I
appreciate the need for timber
management and production on part of
these public lands. I strongly
oppose the use of any herbicides on
any public land whatsoever!
We simply do not need such harsh and
intensive management activities in the
National Forests.

1

I also strongly believe that a
substantial portion of National Forests
should be simply left alone by the
National Forest Service. We must
have mature forests for Americans today
and tomorrow. Please try to confine
logging + timber management to those
areas already under heavy management.
It's a fair, 50/50... you manage

2

Response to Comments in Letter No. 479

From: David H. Stable

Comment No.

Response

1

Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

2

Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

and produce lumber off one half
of ~~the~~ National Forest, and leave
the other half to nature and
to all Americans.

Thank you for considering
my opinion.

Sincerely,

David W. Stahl

1685 Susan

Fayetteville, AR 72703

501-443-0346

Forest Land and Resource Management Plans and this EIS are critically
linked. Chapter I discusses that linkage and chapter IV section Q
discusses how conflicts can be resolved. Pages II-2 through II-18
describe all the alternatives considered. Near the end of each
alternative description is a table which shows, by method, the various
kinds of vegetation management being done. Note that, in each case,
less than half of the treatments are timber related. Timber harvest (no
matter how) is not within the scope of this EIS.

Cynthia L. Crawford
 8118 W. Martham 21A
 Little Rock, Ark 72305

VMD EIS Comments

USDA Forest Service
 1720 Peachtree Road NW
 Atlanta, Georgia 30367

VMD EIS:

Stop and think, Remember Rachel

Carson. Visualize sick and dying
 forests. Visualize sick and dying
 people. Do any of you have
 children? Do you care about
 them?

Explain "acceptable risk" to
 a cancerous child. I cannot
 condone the current plan for
 herbicide use by the USFS
 for vegetation management
 when the chemicals are
 labeled "use at your own

1

Response to Comments in Letter No. 480

From: Cynthia L. Crawford

Comment No.

Response

1 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source: see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

2 "risk" and neurological and immunological data of long term effects are unavailable,

I support a modified

3 Alternative D using mechanical and fire methods as little as possible. Manual methods are more ecologically sound and result in higher employment rates.

If we take life from the Earth it will take life from us. Do not destroy our symbiotic relationship.

Manage the forest non-toxically before it's too late!

Guthrie J. Crawford

2 We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects. The definition of headache = neurotoxic effect is too narrow a focus of this symptom.

3 Your preference for alternative Modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

4 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

4 Nov 1989

Mr. John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

RE: DEIS for Vegetation Management in Ozark/
Ouachita Mountains.

Dear Mr. Alcock:

1 Because I firmly believe that the use of chemical herbicides in forest management is unnecessary and hazardous, I favor adoption of alternative D. There are several risks involved when chemical herbicides are used, and their risk is unacceptably high.

2 Chemical use in all agricultural enterprises in recent years has been extravagant and reckless, but there is reason to believe that such use is now beginning to be modified. Forestry is the one branch of agriculture in which there was practically no use of chemicals until about 40 years ago. Because forests can be managed successfully and economically without herbicide use, forestry should be a leader in sustainable agriculture.

Sincerely,

Charles J. Cremeen
CHARLES J. CREEMEN
Rt. 2, Box 659
Hensley, AR 72065

Response to Comments in Letter No. 481

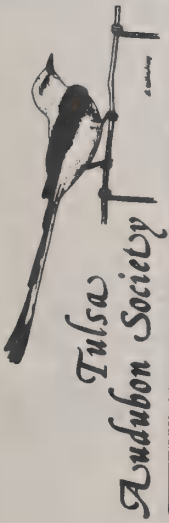
From: Charles J. Cremeen

Comment No.

Response

- 1 Your preference for alternative D has been included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 2 There is no bias towards the use of herbicides. The Draft EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Ozark and Ouachita Mountains methods other than herbicides are projected to be used on 75 percent of the total acres treated in the preferred alternative F in the Draft EIS (page II-12). The EIS simply shows that the preferred alternative, with its mitigations and inherent constraints, would improve treatment effectiveness with minimal adverse impacts. Furthermore, the determination of the most appropriate tool for a project must be made at the project level based on a site-specific analysis. A reasonable range of alternative methods, including the use of methods which do not involve herbicides, will be examined and evaluated, and IPM principles must be incorporated (Draft EIS pages II-38-41).

October 24, 1989.



Mr. John M. Curran, Supervisor
 Ouachita National Forest
 P.O. Box 1270
 Hot Springs, ARK 71902

Dear Mr. Curran:

1 The Tulsa Audubon Society is strongly opposed to the use of herbicides in our national forests, specifically the Ouachita National Forest. We believe in a poison free forest.

2 Herbicides are an unacceptable risk to all living things, including people. Any necessary vegetation or pest management should be by hand, mechanical, and biological methods. The risk of ground water contamination and long-term bioaccumulation of herbicides is there. Herbicides are much more persistent in the food chain than previously believed. Herbicide use is the most disruptive and far-reaching of the vegetative management plans on biodiversity and other natural ecological processes.

Sincerely,

Sue Woodward
 Sue Woodward
 Conservation Chair
 Tulsa Audubon Society

Response to Comments in Letter No. 483

From: Sue Woodward, Tulsa Audubon Society

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced. We require.
- 2 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced. We require.
- 3 The effects of all methods, including manual, mechanical, and biological, are described in chapter IV of the Draft EIS. There are many situations where these three are the most desirable methods. However, in certain situations, such as control of sprouting, selective stem treatments, or hazard fuel reductions, herbicides and prescribed fire are more effective.
- 4 Potential effects on water are discussed in appendix C and on pages IV-97 through IV-105 of the Draft EIS. Bioaccumulation is discussed in appendix A and in part B of chapter IV.

 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

November 1, 1989

USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Georgia 30367

Dear Sir:

First, let me thank you for inviting me to review your Vegetation Management Draft Environmental Impact Statement, volumes I and II. I apologize for not getting back to you quicker with my review, but as each volume was several hundred pages, my review took longer than I initially thought it would.

I wish to commend the Forest Service for its effort in preparing these documents for review. It is obvious that much thought, labor, and research went into the preparation of your statement. These proposals must be difficult to formulate, considering the diverse group of people the Forest Service must try to please. Again, I appreciate your efforts regarding this large-scale vegetation management statement.

I have several comments to make and will try to do so efficiently and with specific reference to your statement volumes.

1 In Volume I, section I, page 3, you state that "pine stands are managed to include a hardwood component of up to 30%." I feel that the long-term effect of this would drastically hurt tourism, wildlife, and the general quality of streams and air. I would like to see the hardwood percentage greatly increased.

2 In Volume I, section I, page 5, I agree wholeheartedly with your desire to have Corridor Maintenance of trails, roadsides, and utility lines. I feel this is needed and beneficial. I do not favor use of herbicides, however, to obtain this.

3 In Volume I, section I, page 7, you talk about the "desired tree species." I hope the Forest Service has not decided that the only purpose for the Ouachita National Forest is to plant pine trees as a crop, excluding other trees and uses for the Forest. While certain areas could be maintained for pine tree crops, certain other areas should be more or less treated as a wilderness area to maintain the natural state of this Forest.

4 In Volume I, section IV, page 7, you discuss accident projections. I am not in favor of the use of herbicides. The only way one could prevent accidents as you discuss is omission of herbicides. A catastrophic accident so far as I know has not yet happened. Should one occur, however, has the Forest Service set itself up for legal compensation? As your report mentions, many of these herbicides do not have complete studies done to determine their toxicity to humans as well as the exact types of wildlife found in the Ouachita National Forest. Shouldn't the Forest Service wait until each chemical definitely has been cleared from a toxic/carcinogenic standpoint before its administration? Shouldn't we be concerned with decreasing the amount of chemicals we put into an already troubled environment?

JW

Response to Comments in Letter No 484

From: Nancy L. Williams

Comment No.

Response

1 This percentage is based upon standards established in Individual Forest Plans. Note that we are referring only to "pine stands." At higher percentages we would be dealing with either mixed or hardwood stand classifications.

2 As shown on page II-12 of the Draft EIS, the preferred alternative achieves trail corridor maintenance entirely through manual treatments. For other rights-of-way treatments, herbicide use represents just over 8 percent of the total, a small but essential component of the program. Also herbicides are used by many Department of Transportation agencies as a tool to reestablish and maintain native grasses and wildflowers in road corridors.

3 We agree.

4 Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7. We feel if the mitigation measures required such as low application rates, buffers, taking only small quantities to field, and use of only the lowest-risk herbicides as listed on pages II-52-59 of the Draft EIS are used, catastrophic accidents will not occur.

Page 2 - Vegetation Management

I do not feel that "the end justifies the means." You state in Volume I, section IV, page 10 that tests needed to provide data currently unavailable could cost over a million dollars. You state that the public would suffer should the vegetation management proposals be delayed. I feel like the Ouachita National Forest has survived much longer than the average man's lifetime just fine - without chemical manipulation. I do not feel I would suffer if herbicide use in the Forest ceased. I, on the otherhand, would be greatly relieved that the Forest Service chose not to administer additional chemicals into the National Forest. We should not introduce chemicals into an extremely sensitive environment, especially when we do not know their current toxic effects on humans and certain animals, and especially when we do not know any long-term effects on the same. The end does not justify the means.

You very honestly stated that there are data gaps in this statement - Volume I, section IV, page 66; Volume I, section IV, page 78; Volume I, section IV, page 101; Volume I, section IV, page 116; Volume I, section IV, page 147; Volume II, section I, page 9; and Volume II, section 3, page 46. Data gaps need to be non-existent when long-term environmental manipulation by herbicides is considered. Another concern I have is with the use of assumptions and estimates throughout the statement. While most might turn out to be accurate, this is an unknown.

I agree with your goals as listed in the middle of page 1, section 2, Volume II. I would hope that in sustaining and improving the land to produce timber, wildlife, etc., that you do not put undue emphasis on one species over another. A balance should be sought. An emphasis on certain animals, trees, plants, etc., should only be entertained should that species become endangered. Then, an "over-emphasis" might seem appropriate. I am against cutting down hardwoods and replacing them with pines. I would not be against cutting down certain hardwoods, at their right time, and selling them for a fair market price, and then, replacing them with other hardwoods.

I was pleased to see that you determined toxic reference levels (LD-50, threshold, and MOEL). Do we know, however, these values in relationship to humans and all types of animals? I was also pleased to see that the EPA had been involved in testing. I noted they (EPA) are not quite through reviewing some of the chemicals. I would hope no opinions would be rendered until their study has been completed. I would hope no action will be taken also until their study has been completed.

In Volume II, section 4, page 38, you use assumptions involving the movement of herbicides through the sand aquifer. Does this section accurately reflect the type of terrain found in the Ouachita National Forest? I also had questions regarding several tables (Volume II, section 5, pages 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, and 28). These tables are complex, and really over my head, but I did not understand in what units the margins of safety were listed. I did not see any units listed, just the numeric value.

TJW

Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.

The amount of herbicide and types of herbicides proposed have been greatly reduced from that currently used. See chapter II pages II-5, II-12, and II-66 of the Draft EIS.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

The reregistration process (the process of reviewing all data) has been completed except for cancer tests required by EPA for glyphosate (pages 3-39 and 3-40 of appendix A). While there are still areas of incomplete or unavailable data, these do not affect current EPA registration of the products approved for use by this EIS.

At the beginning of this discussed on page 4-32 we indicated we were evaluating maximum conditions, thus the results exaggerate potentials for the Ouachita National Forest.

The numbers are not units, rather a comparison between two values. Please see page VII-4 for definition. The larger the number in the table, the lower the risk to human health. We have accepted the EPA's standard that values greater than 100 do not pose significant health risk to the public.

Page 3 - Vegetation Management

10 I was disturbed by a "general consensus" statement (Volume II, section C, page 10) that "herbicide usage at normal forestry rates does not reduce the activity of micro-organisms." I do not believe one can say that when so much is still unknown about responses to herbicides.

11 I was disturbed by the first full paragraph on page 12, section C, Volume II. You state that "all water is contaminated." You state that water is not thought to be polluted until concentrations of contaminants exceed a quality standard and threaten some use of water. I would hope that the Forest Service philosophy would be to stop the use of herbicides because "the water is contaminated." Just because the water is already contaminated is no reason to say it is OK to use herbicides. In fact, it is for that very reason (that all water is contaminated) that every effort should be made to cease the administration of any more chemicals which would add to the contamination, if not pollution, of our existing water.

12 With regard to burning of the Ouachita National Forest for vegetation management, have you explored the harmful effects of dioxins, difurans, chlorine gas, hydrochloric acid, cyanide, phosgene gas, or chlorine dioxide being contained in the smoke from burning the Forest? In consulting with others, I found out that 2,4-D contains TCDD, the deadliest known dioxin there is. These dioxin breakdown products are extremely long-lived and could be spread from a burning site in smoke.

13 Do you have any other more proven methods for risk analysis other than Quantitative Risk Analysis? The estimates and assumptions that your statement makes should have pin-point accuracy. I am afraid, however, that using quantitative methods will be very inaccurate in certain instances. I know of pesticide studies using such a risk analysis that failed to predict certain effects involving severe poisoning. I am a Registered Nurse and am concerned that the risk analysis done on many chemicals was woefully inadequate as far as cancer potential was concerned. The Forest Service must not use herbicides which do increase contamination. The Forest Service must not use herbicides which have not been fully studied with regard to multiple harmful effects to multiple creatures.

14 It has taken many, many years for researchers to prove the various, harmful ways the chemicals in cigarettes affect man. It would be disastrous to clear-cut, apply herbicides, and massively burn areas in our National Forest now, only to find out years later that this has destroyed plants, trees, animals, and perhaps people permanently! We must think before we act. We must be absolutely sure over a long period of time that our actions will not result in harm. As I have heard many people say, "we must begin to take care of our environment, or the environment will take care of us" and "we must clean up the environment, or there will not be anything left period."

10 This statement reflects the conclusions of cited literature.

11 This statement defines the terms "contaminated" and "polluted." There is no reference or even an inference to Forest Service policy.

12 The consensus among scientists that have studied the topic is that use of herbicides at our low rates (Draft EIS, page II-53) does not yield high enough concentrations to adversely affect soil microflora (appendix C, page C-10). These herbicides are not general biocides but are formulated specifically to affect the more complex metabolic processes of higher plants that are absent in microflora (Draft EIS page IV-95). The major threat to soil productivity is not toxicity to soil organisms, which recover rapidly from disturbance, but loss of organic matter and nutrients (Draft EIS, pages IV-85-97).

13 Burning vegetation treated with herbicides is discussed on page 4-61 of appendix A and in the Draft EIS on pages IV-23 through IV-25. Note that 2,4-D is not being proposed for use. Additionally, a detailed discussion of emissions is contained in the air quality section on pages IV-116 through IV-123 of the Draft EIS. See also response to comment number 4, Letter No. 245.

14 Code of Federal Regulations (40 CFR 1502.22) requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on quality and relevance to the process.

15 The criterion proposed "...to determine all possible effects..." is at variance with 40 CFR 1502.2(b) which states: "Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues..." and also is inconsistent with 40 CFR 1502.22 which deals only with "...reasonably foreseeable significant adverse effects on the human environment..." "...All..." is not an acceptable criterion.

16 We agree and this is a major reason for preparing a vegetation management EIS. This process allows us to analyze and evaluate the effects so that our managers can be provided with the most current information as they do site-specific analysis for projects.

17 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

What if I gave my patients medicines, which had only been tested for a short duration and with quantitative methods only. Could I say "it's okay, because I know if I give a low dose, which will not kill 50% of the patients acutely, it will suffice." Could I use the argument that "sure it's toxic, but at a low level." What if I could control an entire operating room's schedule. What if I made a rule that only heart surgeries and cataract surgeries be done because they make more money than certain other surgeries and the patient turn-over is quick. What if I over-booked heart surgeries and cataract surgeries so much that no other cases could get scheduled.

What if I were a car manufacturer. Could I introduce a new engine and get by with the argument that "sure you will breathe the toxic fumes, but at a low level to some rabbits that we studied for four days." What if I ordered the complete removal of all cars except green Toyotas, because other cars did not go as fast or run as efficiently or make as much money as those green Toyotas.

Have I made my point? I am against the use of herbicides in our National Forest. I am against clear-cutting in our National Forest. I hope the above examples as well as the rest of the content of this letter will help convince you how dangerous to the environment both can be. I feel it is wrong to introduce the chemicals mentioned in your statement to a sensitive environment, even if they are only slightly toxic in certain studies on limited subjects. I feel it is wrong to selective grow one tree (the pine) over another because it makes more money or grows faster. (Just as it is wrong to do only certain surgeries because they make more money or to sell only Toyotas because they make more money.) Such manipulation, especially of the environment, is simply WRONG!!!

Please consider our pleas regarding no clear-cutting and no use of herbicides in our National Forest. Our environment is very fragile, as a lot of people are now finding out. Please look over the enclosed articles. I am not alone. There are many out there just like me who want to see a radical emphasis put on salvaging what is left of our forests, streams, rivers, animals, plants, and land.

Again, I commend you on your efforts to study our Ouachita National Forest. I just feel, however, that you need much more long-term, concrete data before you commit 10 years of clear-cutting and use of herbicides to this area. Please let the Forest Service begin to be receptive to the needs of all (plants, trees, and animals included!). Please let the Forest Service begin to be a glowing example to all of the best in environmental protection methodology.

I spent considerable time reading your statement and formulating this letter. I would hope that you would read this as carefully as I did your statement. I would also be interested in any reply, hopefully, as personal of a reply as I have given you.

Sincerely,

Nancy Williams

* Enclosures *

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ARKANSAS WILDLIFE

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FEDERATION

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PRESIDENT VICE PRESIDENT TREASURER SECRETARY BOARD OF DIRECTORS ADVISORY BOARD HONORARY MEMBERS LIFE MEMBERS SUPPORTING MEMBERS SYMPATHIZING MEMBERS YOUTH MEMBERS STUDENT MEMBERS SENIORS MEMBERS HONORARY LIFE MEMBERS HONORARY SYMPATHIZING MEMBERS HONORARY YOUTH MEMBERS HONORARY SENIORS MEMBERS	ALL INFORMATION IS AVAILABLE TO THE PUBLIC UNDER THE ARKANSAS OPEN RECORDS ACT EXCEPT WHERE SHOWN OTHERWISE OTHERWISE INDICATED BY THIS SYMBOL (S)
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November 4, 1989

Mr. John E. Alcock
 Regional Forester
 USDA Forest Service
 1720 Peachtree Rd., N.W.
 Atlanta, GA 30367

RE: Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains

Dear Mr. Alcock,

Please accept these comments on behalf of the Arkansas Wildlife Federation's Executive Committee. The Federation is the largest private non-profit conservation group in Arkansas, with more than 5,500 members.

We would like to commend your office on the effort that went into the preparation of the captioned document and its appendices. It is far more thorough than any of its predecessors and does address a very complex subject.

Our comments are intended to aid in the development of a final EIS which presents options for more balanced management of resources both for use and conservation and more in the spirit of the Multiple-Use Sustained Yield Act as well as other legislation enabling the USFS to manage our public forest resources.

General Comments on the DEIS.

The documents are so lengthy and complex that most people - even people who are very concerned about the issues being discussed - cannot review them thoroughly. For some reviewers, there is too much detail in the DEIS and Appendices, yet there is too little in the summary.

The relationship between this DEIS and the Land and Resources Management Plans for the same forests is also confusing and gives the impression of fragmentation rather than integration of the various aspects of resource management. Also, having otherwise comparable bar graphs drawn to different scales is misleading when there is no accompanying narrative explanation.

Response to Comments in Letter No. 498

From: Laurie Cook, Arkansas Wildlife Federation

Comment No. Response

1 The Interdisciplinary Team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, and that the analysis is easily read and understood, some may still find it overly complex. The summaries on pages 111 through 114 of the Draft EIS attempt to address this problem. Nonetheless, there still may be problems. To assist with understanding we provided a variety of resource materials and held public forums to respond to questions. Ultimately, we must do an adequate job of handling the complex science while at the same time making our findings understood. We believe that an balance we have done that.

We feel that the Scope of Decisions discussion on page 14 of the Draft EIS, as well as the Introduction discussion on page I-1; Need for Action discussion on page I-2; Scope of Decision and Implementing the Decision discussions on page I-8 of the Draft EIS clearly disclose the relationship between the Vegetation Management EIS and Forest Land and Resource Management Plans.

Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Generally, this process concludes with an amendment to the Plan. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that bar graphs are drawn at an exaggerated scale and each axis is clearly labeled. There was no intent to mislead nor do we feel such intent can be assumed.

This EIS is used to make decisions on how the vegetation management program in Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS (40 CFR 1501.7(3)) and have not included several issues which were discussed in Forest Land and Resource Management Plans. We do not believe that repeating those issues and associated analyses here, when they are already available in another document, to aid the decisionmaker in making a reasoned choice among alternatives is necessary.

The need for vegetation management is discussed in the document but comments on some of the reasons for that need are discouraged. Specifically, I mean that the role of silvicultural and management systems in influencing the need for vegetation management activities is never addressed - not in this document and not in the Land and Resources Management Plans for the various forests. This is a serious oversight because it leaves a major gap in terms of management activities with concurrent significant environmental impacts being carried on by the agency with no environmental impact statement ever addressing the situation.

There is a lack of a broad range of alternatives analyzed. This is evidenced by the fact that five of the eight alternatives presented propose to treat the same acreages for the same purposes and vary only the method of treatment. The failure to analyze more combinations of methods, acreages and purposes for vegetation management emphasizes the major influence that overall management objectives have on the issues raised in this statement and limits the options available for analysis.

Recommendation.

We recommend development of more alternatives and combinations of options. In particular we advocate for a modification of Alternative B.

The first modification we propose is to include use of the following biological method for vegetation management particularly for those acreages requiring site preparation. That is, use timber harvest methods, timing of harvest cuts, natural competition and succession to manipulate the light availability factor as an influence on vegetation.

The other modification is to utilize a mix of methods of vegetation management less dependent on herbicide use such as that presented in alternative D. In addition, wherever herbicides are being used they should be incorporated into an integrated pest management program which emphasizes prevention of the need for vegetation management, allowing natural processes to work, employing the least invasive and least toxic methods, and using follow-up monitoring and evaluation to help fill in data gaps.

General Comments on Herbicides.

We commend the decision to refrain from proposing use of the most toxic and dangerous of the herbicides originally considered. There are many reasons we advocate a move away from reliance on herbicides altogether rather than a continual substitution of one chemical compound for another when the first is deemed too risky. These break out into three broad categories - risk to humans, risk to the

3 The role of silvicultural and management systems in influencing the need for vegetation management activities is a Forest Plan question. A brief summary of considerations relevant to this question is presented in chapter I.B.4 (page I-7). More detailed discussions of silvicultural systems are found in Plans.

4 Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method.

We agree that alternatives seem constrained by overall management objectives. We often state in the Draft EIS that these management objectives were established during the Forest Land and Resource Management Planning Process and that the vegetation management EIS would not reallocate resources or reenter those allocation issues associated with Plans. This is a supplement to Land and Resource Management Plans, not a rewrite of them.

On page II-1 of the Draft EIS we list some of the constraints initially applied to alternatives. Because some of these constraints are mutually exclusive, we did not always succeed in meeting them. For example, alternatives A, B, and H respond to issues and A conforms to regulations requiring a no action alternative. Alternatives A, B, and H however do not meet the goals, objectives, and decisions of Forest Land and Resource Management Plans, yet we fully analyzed potential effects.

We would also point to alternatives A, B, and H as reflecting substantial variation in acreage treated. While alternatives C, D, E, F, and G do treat the same acres, these alternatives are widely dissimilar. Differences are easily detected by reading descriptions in chapter II, part B, numbers 1 through 8. Additionally, table II-5 on page II-66 of the Draft EIS depicts differences.

Finally, the alternatives respond to issues in significantly different ways. This information is displayed in summary form in table II-2 on pages II-60 and 61 of the Draft EIS. We believe this is sufficient to meet the intent of 40 CFR 1502.14 which requires that there be "a clear basis for choice among options by the decisionmaker and the public."

5 Timber harvesting methods are outside the scope of this EIS and are dealt with in the Forest Land and Resource Management Plans to which this document is linked. See Draft EIS pages I-7 and I-8 for a discussion of this linkage.

6 IPM requires a full variety of tools be available and used where appropriate. Thus, all alternatives except A and D are IPM alternatives. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

environment and concerns over the implementation, enforcement and monitoring of an herbicide program.

On the hazard side of the risk analysis there are simply too many "data gaps", i.e., too many pieces of the puzzle that we don't have. Additionally, reliance on acute toxicity (LD50 and LC50) data for hazard assessment neglects the importance of long term and chronic potentialities of various substances. Neurological and immunological data are not even required by EPA for registration. Essentially no work has been done on the synergistic effects of herbicides, their solvents, preservatives, petroleum distillates, emulsifiers, other inert ingredients, metabolites, degradation products, and carriers with each other or with other chemical compounds such as agricultural chemicals or other pollutants to which people may be exposed.

On the exposure side for human health and safety, exposure to contaminants, solvents, preservatives, petroleum distillates, emulsifiers, other inert ingredients, petroleum metabolites, degradation products and carriers (which often compose a much greater volume of material and therefore risk of exposure) is of great concern and must be addressed in greater detail if herbicides are to be used. Exposure in conjunction with other exposures (past, current and potential) must be calculated into the risk assessment.

Environmental effects which concern us include physical, biological, social and economic ramifications of herbicide use. Effects on wildlife including residue concentration in game, water quality, soil productivity, effects on threatened and endangered species, forest wide diversity, aesthetics and ecosystem coherence all concern us.

The social role of maintaining a chemical dependency and setting that as an example to private non-industrial forest land managers concerns us, too. Economically, we hate to see monies expended leave the area along with jobs where unemployment is high. A thorough cost accounting including the cost to society of production, testing, distribution, mixing, application, monitoring, disposal, and the increased risk of exposure (accidental or otherwise) must be done in order for any economic analysis to be valid. Cost benefit analyses must address the issue of who bears the cost and who reaps the benefit.

We continually receive reports of safety violations with respect to the application of herbicides. A plan for monitoring and enforcing safety precautions is a very critical component of any herbicide program which aims to protect the health of workers, the public and the environment.

Specific Comments on Herbicides.

7

Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all improve safety for workers, the public and wildlife, and minimize adverse effects to non-target plants and the environment.

Based on data presented in the Risk Assessment, concern about neurological and immunological effects was not felt to pose a reasonably foreseeable potential for causing significant effects. While continuing to monitor the scientific literature we have as yet no evidence to suggest that there is a legitimate concern in this area.

We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research.

The Draft EIS evaluates 7 herbicides and 4 additives. Within this content, the discussion of synergism is accurate and it applies only to those 11 chemicals as they are likely to interact with each other and with other chemicals present in the environment. The Final EIS reads: "There are several reasons which make the probability of the occurrence of synergism involving the evaluated herbicides very small."

Coverage of these chemicals and exposures, within the limits of available data and modeling, is presented in the Risk Assessment (appendix A) and summarized in chapter IV.

All of these subjects are covered in chapter IV of the Draft EIS. More detailed information is available in the appendices.

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Rigorous economic analysis was not desired by most people who commented nor was it needed for decisionmaking. Many people suggested that if any economic analysis is done that it be a simple display of costs. Most found analyses such as those done in support of Forest Land and Resource Management Plans to be overly complex, confusing, and extremely difficult for the lay person to understand. Because this EIS incorporates the goals and objectives of plans, it necessarily incorporates plan's economic analyses, which, for those who request more detail, respond to that need. Our approach follows direction in 40 CFR 1502.23.

Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. Broadcast applications (which we are deemphasizing) as a general rule are capital intensive while selective applications (which we are emphasizing) are labor intensive.

The costs you mention are only subsets of total cost which we have evaluated. Production, testing and distribution costs are reflected in the cost of products. The other costs are reflected in our projects.

We are unsure what you mean by chemical dependency. Chemicals of many sorts are essential to our everyday activities. Other chemicals, while not essential, contribute to economy, comfort, and lifestyle. The preferred alternative represents a balanced use of all the tools available to us. In addition, our record shows a long-term adjustment toward that balance. When the preferred alternative is implemented, we will have reduced the number of acres treated with herbicides by 36 percent since 1983. Even more dramatically, implementation of better application methods has reduced the variety of products used and the total pounds of active ingredients needed.

11

We agree, all of the stringent mitigation measures listed for herbicides in chapter II of the Draft EIS are incorporated to reduce risks of adverse effects and accidents. Misapplication should immediately be brought to the attention of the Forest Service.

Triclopyr. Any compound containing chlorine in the presence of hydrocarbons and fire could create dioxins. Some formulations of triclopyr contain large amounts of kerosene (up to 38%) and it is mixed at a 1:1 or 1:2 ratio with more kerosene as a carrier. Kerosene contains 28 ppm benzene which poses very serious risks for dermal exposure. Kerosene is also toxic to honey bees. Triclopyr inhibits seed germination at 50 ppm and 4-18 ppm are common forest floor concentrations. We have concerns about the metabolite phosgene, and the cancer studies on this compound are controversial in the scientific community. It is fetotoxic and metabolites still containing chlorine have a half-life of 279-300 days.

Hexazinone. Velpar L is toxic to soil microfauna which are essential for the growth of pine transplants. The dosage expected to be experienced by several mammals under normal patterns of use exceeds the EPA exposure limit. Even though you call it relatively non-toxic to bees, theoretically one pound of Velpar can kill up to 720,000 honey bees. This is devastating for a forest ecosystem which relies on bees for pollination and honey as a food source for wildlife.

Picloram. Its amine salt formulation is very water soluble and the potential for high concentrations to accumulate in runoff is great. From 400 ppb to 1 ppm has been measured in runoff and it is persistent for up to three years. The LC50 for trout is 4-5 ppm and it remains phytotoxic for a year or more following normal application. It causes liver problems in rats and fetal development problems in mice. There is scientific controversy over the cancer data.

Fosamine. This is also very water soluble. It is teratogenic (causes birth defects) to birds and for mallards and bob whites it may be embryotoxic as well. Of the seven herbicides proposed this has the highest dermal toxicity. The oncogenicity data is controversial in the scientific community and it might be a mild mutagen.

Glyphosate. This herbicide inhibits nitrification in the Nitrogen cycle. The oncogenicity study on it is controversial and a surfactant present in the formulation may be carcinogenic.

Imazapyr. It persists in the soil up to a year and the cancer studies on it are not complete.

Sulfometuron Methyl. In storage, the dust from this compound forms an explosive mixture with air which can be ignited by heat or open flame. It is also toxic to honey bees.

12 Neither dioxin nor phosgene have been demonstrated to be pyrolytic or breakdown products of triclopyr. Please review our discussion of kerosene and also mitigation measure number 3 on page II-53 of the Draft EIS. Please review our conclusions (page 3-42, appendix A) concerning triclopyr carcinogenicity.

13 We have been unable to find scientific literature which supports this claim, and data presented in table 8-7 of appendix A leads to the conclusion that there is virtually no risk to animals at the typical use rates we require. The example computation for bees may be possible in theory, however, we evaluated reasonably foreseeable impacts and do not find such severe effects possible or probable.

14 Recognizing potential runoff and persistence/phytoxicity concerns, we retain the use of picloram only for control of the invasive, exotic weed kudzu. Use will be minimal, but picloram is the only effective control we have available at present. Considering this very limited use of picloram and required buffers, we do not anticipate significant effects.

15 Fosamine is very water soluble, but, since it is extremely adsorptive, it is virtually immobile (Draft EIS, page IV-99). There was found to be insufficient data to determine the cancer risk of fosamine (page 3-39, appendix A). For the purposes of this Risk Assessment, fosamine is considered non-mutagenic (page 3-33, appendix A).

16 There is speculation that glyphosate inhibits nitrification. However, at use rates allowed, the effect would be a negligible one. For analytic purposes, we assume that glyphosate is carcinogenic (see table 5-26, appendix A). While more toxic than glyphosate, we are unaware of any evidence which indicates that the Roundup surfactant is carcinogenic.

17 We agree and disclose this information in the EIS.

18 Using the Atkins scale presented on page 6-1 of the Risk Assessment, sulfometuron methyl is classified as relatively nontoxic to honeybees. The dust/storage problem is noted on the label and must be dealt with in accordance to its risk. Each of our work sites has specifically constructed storage facilities with operation plans to accommodate unique characteristics of products stored there.

19 Limonene. This also is highly toxic to honey bees, reptiles, and amphibians.

Conclusion.

The groundwork has been laid in this document for the further analysis necessary to devise an alternative which best meets all the multiple uses of the forest in a balanced fashion. We hope our comments are useful in this process.

We appreciate the opportunity to respond and participate in the process. Please contact us if we can be of further assistance,

Sincerely,

Laurie Cook

Laurie Cook
Secretary and AWF Forestry Committee Chairperson

LC/hs

1513 N. 5th
Monroe, LA 71201
November 2, 1989

USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

To Whom It May Concern:

This letter is regarding the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains. I am opposed to any future herbicide use by the USFS for vegetation management because:

- 1) of extensive "data gaps" in the human risk and wildlife risk assessments.
- 2) being a landowner in that area, I consider the risk that herbicides pose as unacceptable to me and also to be a threat to the quality of my life.
- 3) Herbicide use on public land involuntarily exposes people to risk, particularly those that may be more sensitive to such.
- 4) there are no water quality standards for most herbicides planned to be used since EPA and individual states have failed to set any standards for them.
- 5) studies do not adequately address impacts of burning herbicide treated vegetation. Nothing is said of possible dioxins, difurans, chlorine gas, hydrochloric acid, cyanide, phosgene gas, or chlorine dioxide being contained in the smoke, thus spreading to other sites.
- 6) herbicides disrupt the natural ecological processes, as well as interfering in the food chain.
- 7) manual methods of vegetation management would provide more opportunity for employment in an area with high unemployment rates.

I support the NCWA modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.
Thank you for this opportunity to comment on a matter of much concern to me and my family.

Sincerely,

Brenda Scheffler
Brenda Scheffler

Response to Comments in Letter No. 499

From: Brenda Scheffler

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 3 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.
- 4 Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:
(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.

- 5 Available information, presented in appendix A, pages 5-31 and 5-32, shows margins of safety of 150 or greater when compared to toxicological reference standards. Please also review the general and prescribed fire reviews of quality presented on pages IV-116 through IV-124 of the Draft EIS. The EIS team will be glad to review any scientific information not previously reviewed.
- 6 We agree, but conclude from the data that this disruption is temporary, and, on balance, beneficial within program constraints.
- 7 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 8 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

618 Edna St.
Fayetteville, Ark. 72703

Dear Sir:

Thank you for the opportunity to review and comment upon the Vegetation Management EIS for the Ozark/Ouachita Mountains.

One of my primary concerns is the use of herbicides. I am adamantly opposed to aerial application of herbicides. From the data provided by the EIS I am concerned about the safety of several of the compounds but particularly 2,4-D and the possibility of sub-clinical, chronic exposure and the immunologic and neurologic effects on humans and wildlife.

Also, I do not feel that the information about the rotting tree proliferation and leaching effect taken into consideration the type of fractured sedimentary rock beneath the soil throughout the Ozarks and Ouachita Mountains. Other situations such as this I don't believe make and identical situations can replace experimentation and data. Use of these herbicides may then potentially threaten the water.

off the forest are managed in such a way as to decrease denuding, there would be a demand and for many of these methods. I believe that employing the best science and best tree methods should be used with effective monitoring and data accumulation. Therefore, I support alternative D with reduction of total acres of vegetation management, using manual methods as much as possible with low intensity for and mechanical methods. Thank you for your consideration.

Sincerely,
Randall Davis M.D.

Response to Comments in Letter No. 500

From: Randall Davis

Comment No.

Response

- 1 Neither aerial application of herbicides nor the application of 2,4-D are permitted in the preferred alternative identified in this EIS.
 - 2 We are unsure of the meaning of "sub-clinical" as used in this sentence. However, as to the comment about immunologic and neurologic effects, there is currently no accepted protocol for evaluating these potential - but unqualified or unquantified - effects.
 - 3 The situation evaluated - leaching through Astatula sand - is the maximum potential for leaching more so than through the fractured rock beneath the soil throughout the Ozarks and Ouachita Mountains.
 - 4 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.
 - 5 While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).
- Your preference for alternative modified D was included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Dear Folks,

Hello. I have spent a little time trying to read your statement for Vegetation Management in the Ozark/Quachita Mountains. I found it difficult to decipher. I have talked w many people here in the ozarks who are very concerned and anxious about the management practices in the Ozarks forests. A libre by Ed Star and owl land is surrounded on three sides by National Forest.

I would hope that the forest service concern for health of vegetation and habitat supporting

Response to Comments in Letter No. 501

From: Patricia Powell

Comment No.

Response

- 1 Vegetation management is a reasonably complex subject, partly justifying the preparation of an EIS. The Interdisciplinary Team attempted to style the EIS in a manner that adequately covered the scientific analysis, but which also could be readily understood by the average person interested in national forest management. You may wish to obtain clarification on specific points from a nearby Forest Service office.

so much life, would be sensible practices that do not threaten endangered species or contaminate springs, drinking water and streams.

3 The long term effects of these poisons have yet to be all tabulated. Let's not let the priorities of the lumber companies be the guidelines for how we successfully manage the forest for every body. And the hunters, too.

4 I am in favor of amendment A and amendment D.
Thank-you for taking the time to hear me in this letter.

Patricia Powell

2 Appendix D and part E of chapter IV address possible effects on threatened, endangered, proposed, and sensitive species. Appendix C and part G of chapter IV address possible effects on water.

Toxic effects on wildlife, as well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

3 Appendix A contains a Risk Assessment which deals with effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22.

None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

4 Your preferences for alternatives A and D were included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

5 Nov. 89

Dear Sirs:

1 I am opposed to any future herbicide use by the U.S. Forest Service for vegetation management because of extensive "data gaps" in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, and III-66, vol. 1.

2 I am a native Arkansan living in the No. Little Rock, Ark. area. I frequently vacation in the Ozark and Quachita National Forest areas. I love the colors of the autumn leaves provided by native trees such as hickory, gum, maple and dogwood trees. I think the recreational value provided by a native forest is just as valuable an asset, (maybe more so) than the monetary values placed on intensely managed stands of pine trees. While I like pine trees, I think oak and other species of native trees are worth maintaining.

3 It is my perception that the risk is unacceptably high and feel justified in asking that our public lands not be managed in this way by using herbicides. I hunt and fish on or near National Forest areas and feel that this is an unacceptable risk to our fishing streams due to runoff.

4 The risk assessment does not consider whether some of the herbicides may be tumor promoters or enhancers, or initiators of cancer in combination with other compounds that could cause cancer.

5 There is just too much risk to human health and to the environment to justify herbicide use in forest management.

6 I am further opposed to use of any vegetation management methods on threatened, endangered or sensitive plant and wildlife habitat because, if left alone, these areas will have a more stable environment with fewer human disturbances and more natural disturbances taking over to which TES species are already adapted.

7 I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice on public lands.

8 Therefore I support the NCM modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low-intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.

Finally, I do not believe the risks are acceptable for herbicide use and do not believe that public lands should be managed with them. Thank you for this opportunity to comment.

Yours truly
Ronald A. Eaton
 Ronald A. Eaton
 5320 No. Locust
 No. Little Rock, Ark. 72116

Response to Comments in Letter No. 502

From: Ronald A. Eaton

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
- Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Each alternative, except A, proposes treatments for several program areas (not just pine management). See page II-12 for a complete breakdown of proposed treatments under Draft preferred alternative F.
3. Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 4 Appendix A contains a Risk Assessment which deals with herbicide effects on wildlife. Appendix C also discusses effects on water. Parts D and G of chapter IV contain further discussions.
- 5 The Risk Assessment does address the concerns you list beginning on page 3-40. Part B of chapter IV also contains lengthy discussions of these possible effects (see especially synergism and bioaccumulation). The risk-of-accident statistics presented in the Draft EIS are based on our current program which includes extensive safety training. Because of the hazards and exposure of vegetation management work, which has been following rigid safety standards for many years, we foresee no significant improvement in these statistics despite continued safety training. Nowhere do we conclude that the listed chemicals are human mutagens; we analyze the data as if this potential exists where questions have arisen in testing. The same comment applies to carcinogenicity; analyses of several products were done as if they were carcinogenic. Unknowns were modeled, and management conclusions were drawn from the analysis.
- 6 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.

7. Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.
8. Your preference for modified alternative D was included in content analysis of all comments received. Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Mr. John Aycock
Regional Forester

1
 Mr. Alcock,
 It is with a sense of foreboding that I sit and
 write you today.
 The Cause of this is the Proposed Vegetation
 Management Program for the Ozark National Forest
 As a resident of the Surrounding area and as
 a frequent user of our State Forests I cannot
 agree with the choice of Alternatives.
 Timber harvest is no excuse for logging
 forests. Today's economy no longer permits this
 type of management. Our Country is too
 broke to start up ~~or~~ continue ~~and~~
 programs that impact the environment so
 adversely and pay back so little.
 My request is alternative "A" the
 hands off approach. These woods ceased to
 exist by ~~it~~ just after the turn of the century. So
 lets let them just breathe a little grow
 a little and have something really special
 to show our children.

Thank You

Brad Clyne
 BRAD CLYNE
 PETTIGREW, Ark.

Response to Comments in Letter No. 503

From: Brad Clyne

Comment No.

Response

- 1 Timber harvest is not an issue within the scope of this EIS. It is discussed in Forest Land and Resource Management Plans. Page II-12 of the Draft EIS contains a table which displays 13 program areas where vegetation management is being proposed under Draft preferred alternative F.
- 2 Your preference for alternative A was included in content analysis of all comments received.

To UDDA Forest Service:

- 1 At present I'm living in the Ouachita National Forrest and totally oppose the use of any herbicides. Further, I oppose the extensive mechanical site preparation which is probably planned in Alternative "D".
- 2 I believe that Alternative D should be modified to eliminate extensive mechanical site preparation and should not include the use of any herbicides.
- 3 Further, I have talked to two people in my area who have become ill due to the spraying of herbicides by a particular lumber company. Further I have very little faith in the studies of the effects of herbicides by the VDEIS. Also I have noted that Little Rock's entire water supply is totally derived from the Ouachita Forrest, thus making the use of herbicides very dangerous.



Larry A. Garrett
Gen. Del., 72122
Feron, Ar.

Response to Comments in Letter No. 504

From: Larry A. Garrett

Comment No.	Response
1	Your opposition to herbicide use was included in content analysis of all comments received.
2	Your preference for a modification of alternative D was included in content analysis of all comments received. Except for alternatives A, B, and H, one objective was to meet Forest Land and Resource Management Plan goals, thus total site-preparation remains relatively constant. By comparing alternative C with alternative D you will see that site-preparation currently done with herbicides is spread between other methods in alternative D. This accounts for alternative D's increase in mechanical site-preparation over current levels. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
3	Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions.
4	Potential effects on water from herbicide use are described in appendix C and in part G of chapter IV. Mitigation measures in chapter II and individual forest standards and guides (in Forest Plans) regarding municipal watersheds protect drinking water supplies. By applying herbicides at low rates (Draft EIS page II-53) and using buffers (Draft EIS page II-57 and II-58), surface and ground water will be protected very well (Draft EIS pages IV-97 to IV-106). Herbicides used on national forests will not build up in the environment; use is restricted to herbicides which have half-lives of 2 months or less and are essentially decomposed in 2 to 12 months (long before any subsequent application).

11/5/89

Dear Sirs:

I am writing regarding the Vegetation Management EIS. I am generally uninformed on the different alternatives in your plan, having just heard about your study yesterday. However, I spend lots of time in our National Forests, so I feel it is my duty to make my feelings known.

I am against the use of herbicides in our National Forests. I am concerned about the possible contamination of ground and surface water from these herbicides. I don't like the thought of drinking from the springs at, say, Gray's Spring or Collier Spring and being made sick by herbicide contamination

Response to Comments in Letter No. 505

From: Joe H. Moore

Comment No.

Response

1 Potential effects on water are discussed in appendix C and in part G of chapter IV. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, in granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

Or, what if a deer drinks from a stream that has been contaminated with herbicides, then you shoot the deer and bring the contaminated meat home for your family to eat? Perhaps scientists would say the meat is safe to eat, but how can we be sure?

I strongly object to the idea of using herbicides to kill stands of hardwood so that the area can be replaced with pine plantations. Food from hardwood trees is an important part of the diet for many forest animals. By poisoning the trees, you are poisoning the animals, and eventually poisoning us.

2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

The issue of stand conversion is beyond the scope of this EIS. It is discussed in the Forest Plans for each Forest.

③

I comment you in your efforts to reduce the use of herbicides and machinery in favor of fire and hand tools. Fire is a naturally occurring phenomena in our forests, and I'm sure the forests can benefit from controlled burning of undergrowth. I don't favor using fire to kill small hardwoods in a stand of larger pines, however. The use of hand tools over large machinery is good, since it will hopefully reduce the disturbance of the top soil and lead to less erosion and less mud in our streams.

It seems you are moving in the right direction with Alternative F, but not far enough. I ask that

3

3

Your preference for a modified alternative F was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

④

you eliminate all use of herbicides
in our National Forests. Please manage
our forests using natural methods,
not man-made chemicals.

Sincerely,
Joe H. Moore

P.S. Please add my name to the
Vegetation Management EIS mailing
list. My address is:

Joe H Moore
601 Ridgeway #D1
Little Rock, AR 72205

Thank you.

Steve McConguodale
 V M D EIS Team leader
 1720 Peachtree RD, NW, Atlanta Ga. 30367
 I support a modified Alternative D with

1 low intensity fire, manual vegetation management, without any use of herbicides, on a reduced # of acres.

2 Why wasn't the effect of herbicides used to complete table D-5?? And how can the Forest Service say that any T.E.S. species might decline ~~is~~ not recover w/out any management how the hell ~~could~~ ^{could} they ever evolve without man's disturbances in the 1st place if this

3 were the case? One would have to be a complete non-thinking idiot to believe this could be

4 I am against the use of herbicides on public land because: 1. The D.E.I.S. fails to evaluate the potential for their herbicides to

Response to Comments in Letter No. 506

From: George Imrie

Comment No.

Response

1 Your preference for alternative modified D was included in the content analysis of all comments received.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2 Table D-5 displays the potential effects of vegetation management tools on sensitive plants. It was unnecessary to state for each herbicide treatment that herbicides are a potential hazard to sensitive plants in a species by species listing. On pages IV-50 through IV-57 of the Draft EIS, the effects of herbicides on plants are disclosed. The fact that some plants are on a list of "sensitive" species does not change potential effects. Also note on page D-13 the statement, "All plants listed as sensitive are protected by the same distance restrictions when applying herbicides." This distance is a 60-foot buffer as described in mitigation measure number 21 on page II-57 of the Draft EIS.

- filter through the Fractured Substrata of this Region. These chemicals are designed to kill vegetation, and as such they will also kill algae which in turn will have adverse effects on all species down the food chain that depend directly or indirectly on Algae. 2. I would rather put our money in to the local economies (by hiring locals to do the needed manual vegetation management) than spend an estimated \$40 out of every \$60 to help Dow Chemical (or any other herbicide producing company). 3. I find the Risk to be unacceptable in light of the Extensive Data Gaps recognized by this draft. 4. The N.C.W.A has ^(in the Nat. Forest) documented real life abuses of chemical ~~label~~ ^{label} directions that exceed the "Worse Case Scenarios" used as a model to evaluate chemical risks.
 Thank you for this chance to respond.
 George Johnson
 Nail Park 17262
 PS. We need to preserve and protect what's left of our National Forests' plant and Animal Diversity. The use of herbicide violates this goal, as does any plan that tries to eliminate "Unwanted Vegetation".

- 3 Any time vegetation management is proposed for threatened, endangered, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species. Man, though sometimes unwelcome, is a part of the environment.
- 4 Please see response to comment number 3 in letter number 500.
- 5 Please see response to comment number 5 in letter number 499.
- 6 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 7 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
- 8 Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 8 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.

Nov. 6, 1989

Dear Mr. Alcock,
 I am a resident of the Pleasant Hill District in Madison Co Arkansas. I understand & here are plans of using herbicides as a way of forest management. At this time I would like to state my complete rejection of this plan. Granted it is a quick way to eliminate the problem of unwanted hardwoods but to me the risk of using herbicides is too great. I also realize we come from two different schools of thought as to the safety of these chemicals. I would appreciate your taking into consideration the fact that I, among

1

Response to Comments in Letter No. 507

From: Ilna Pettigrew

Comment No.

Response

1

Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

many in this area, are dead set against the use of any herbicides. There's dealing with our "back yard" so to speak and I feel whole heartedly that your opinions should be respected.

Thank you for your time!

Sincerely
Tina Johnson

TINA JOHNSON

P.O.B. 42

PETTIGREW, AR 72752

Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.

Mr. John E. Alcock,

As a resident of the area I feel that I must speak out and say that any clearing of land seems to be harmful to all living creatures but especially to think that it could be sprayed with poisonous, toxic chemicals makes me scream with rage and fear, my children and I have to breathe the air and drink water from there if there is anyway besides spraying, we could cut the land by hand and save money also.

Thanks,

Angela K. Clyne

Response to Comments in Letter No. 508

From: Angela K. Clyne

Comment No.

Response

- 1 Appendix A contains a Risk Assessment which deals with potential effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Appendix C addresses potential effects on water. Parts B, D, and G of chapter IV also address your concerns.
- 2 Manual methods are analyzed as one of five possible methods to use. Alternatives utilize varying amounts of each method (see table II-5 on page II-66 of the Draft EIS). Table IV-18 on page IV-129 displays costs by treatment method. While some initial treatments may be done manually at a lower per acre cost than some other methods such as herbicides, part C of chapter IV makes it clear that manual methods often require retreatments to achieve the desired effect. Part B of chapter IV also indicates human health and safety risks associated with manual methods.

Dear USA Forest Service -

After reviewing the VMDEIS I am once again haunted by what seems to be the forest service's lingering desire to use prisons in our national forests.

The forest is our treasure to preserve. It is full of precious vegetation that is running out of suitable environments to continue as a species.

Granted that not everybody cares about endangered species but long term toxicity and contamination to natural springs and ground water is totally unacceptable.

Response to Comments in Letter No. 502

From: Jim's Damet

Comment No.

Response

- 1 There is no bias towards the use of herbicides. The Draft EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Ozark and Ouachita Mountains methods other than herbicides are projected to be used on 75 percent of the total acres treated in the preferred alternative F in the Draft EIS (page II-12). The EIS simply shows that the preferred alternative, with its mitigations and inherent constraints, would improve treatment effectiveness with minimal adverse impacts. Furthermore, the determination of the most appropriate tool for a project must be made at the project level based on a site-specific analysis. A reasonable range of alternative methods, including the use of methods which do not involve herbicides, will be examined and evaluated, and IPM principles must be incorporated (Draft EIS pages II-38-41).
- 2 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.
- 3 Potential effects on water are discussed in appendix C and in part G of chapter IV. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

If we are to allow a portion of the forest for access to timber, then lets do it in a way that will be non-toxic, low-impact and maximize jobs.

4

Lets understand the ~~trade~~-use of highly-toxic poisons is already out of hand. The poultry industry is already contributing way more than their share to contaminating major watersheds in the Ozarks.

I urge the Forest Service to let our National Forest represent our intelligence + compassion by choosing a managing alternative that is free of herbicidal use.

Sincerely

James Hamet
President of Precision Co.
Northwest Arkansas

4
Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).



SIERRA CLUB
Oklahoma Chapter

Mark Derichsweiler
Wilderness/Forestry Chair
312 Keith
Norman OK 73069

November 6, 1989

U.S. Forest Service
Vegetation Management EIS Team
1720 Peachtree Road, NW
Atlanta, Georgia

Dear People:

On behalf of the members and officers of the Oklahoma Chapter of the Sierra Club, I am pleased to offer the enclosed comments regarding the Draft Environmental Impact Statement on Vegetation Management in the Ozark/Ouachita Mountains. The Oklahoma Chapter represents over 2000 members who share a concern for wise stewardship of our natural resources. Our members use the Forest for all kinds of recreation activities, study, solitude and enjoyment - commodities becoming all too scarce in our society. Management of the Ouachita National Forest has been a high priority of our members and leadership for some time.

We are appreciative of the efforts by you and your staff which these documents represent. However, we conclude that the preferred alternative falls seriously short of our vision for the future of the Forest. We are opposed to any herbicide use on our public forest lands and for that reason cannot support your Alternative F. We support a modified version of Alternative D which would eliminate intensive mechanical methods and cattle grazing. Our specific comments are attached.

We hope these concerns will be addressed and a revised EIS issued as soon as possible. Please keep us updated as to your progress and provide us a copy of subsequent documents. Thank you for this opportunity to participate in the planning process.

Cordially,

Mark Derichsweiler
Wilderness/Forestry Chair
Sierra Club/Oklahoma Chapter

...To explore, enjoy and preserve the nation's forests, waters, wildlife, and wilderness...

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IN GENERAL

These documents are very confusing as to the relationship to the Land and Resource Management Plans for the individual Forests. The Draft EIS for the Ouachita Plan defers discussion of herbicide impacts to this document but is impossible to determine these impacts because they are not separated. Impacts from activities on the Ouachita, Ozark, and St. Francis National Forests are all added together. It is impossible to tell which activities are proposed to occur where. This is a serious deficiency.

We are concerned that these documents are predicated on a choice of silvicultural systems which has yet to be made. The plans for these forests are being revised or are under appeal and final decisions are not yet made. Use of uneven age management instead of clearcutting can greatly reduce the need for any vegetation management. We oppose the use of even-age management techniques on more than 25% of the timber base and believe that this would greatly reduce the amount of any kind of vegetation control. This avoidance strategy should be seriously considered.

We do not believe the decision to use herbicides can be justified with the existing data. The discussion of impacts from herbicides is misleading because the full range of impacts is unknown. Attachments 1 and 2 outline some of the known problems with picloram and triclopyr, two of the herbicides proposed for use. Attachment 3 deals with the problem of so-called "inert" ingredients, a serious problem which is not addressed in the EIS.

We are particularly concerned about water quality impacts. Oklahoma's water quality standards afford the highest degree of protection to streams in the National Forest. These are designated "Outstanding Resource Waters" where "no degradation shall be allowed" (Oklahoma's Water Quality Standards, 1988, Oklahoma Water Resources Board). The application of this standard, as well as specific numerical limits for other chemicals which are set in the Standards, is not addressed in the EIS. Use of herbicides also leads to increased erosion and sedimentation because of longer duration exposure of unvegetated soil, another impact not addressed.

We are also concerned about impacts on native diversity. Vegetation management as it is currently practiced is intended to establish pine plantations at the expense of the native mixed forest. We find this unacceptable.

Response to Comments in Letter No. 510

From: Mark Derichsweller

Comment No.

Response

- 1 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage. This document, being a programmatic document, discusses potential effects on a sub-regional basis and requires site-specific analysis to determine immediate and long-term potential effects on a site-by-site basis (mitigation number 1, page II-38, Draft EIS). The proposal for specific activities is consistent with the currently sponsored preferred alternative in the Land and Resource Management Plan for each of the forests involved. Specific allocations are to be found in those Plans.
- 2 Please review information presented in chapter I which specifically excludes discussion of silvicultural systems and several other topics, already discussed in the Forest Plans, from further analysis. Clearcutting and timber type conversion/maintenance decisions are made in the National Forest Land and Resource Management Plans.
- 3 We found adequate data to permit reasoned choices within the constraints of the National Environmental Policy Act.

Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

The specific attachments were considered within the analysis of data available. While recognizing that these three editorials unify much of the negative information about their specific subjects, they did not present scientific data which had not been evaluated in our analysis. The third article (on inerts) is addressed directly by information presented in chapter 3 of the Risk Assessment while the specifics noted for picloram and triclopyr are addressed in the Risk Assessment as well as in Agriculture Handbook No. 633 which is cited in both the Risk Assessment and the EIS.

4 While not specifically citing the noted standard, please review the cumulative effects and ground/surface water discussions in chapter IV of the EIS. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

5 We disagree with your analysis of the purpose of our current programs. Please review the tables on pages II-11 and II-2 of the Draft EIS which give an accurate breakdown of programs under the preferred alternative. For the purpose of comparison, alternative C is the "current" program.

In this EIS, we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, page II-38-39) recognizes the requirement for managing to maintain biological diversity.

Similarly, the preferred alternative will lead to considerable forest fragmentation. The effects are not adequately discussed. Given the intensive timber activities on surrounding private lands, the National Forests are more and more important as a refuge for species requiring large expanses of undisturbed habitat.

We support a modified version of Alternative D which eliminates intensive mechanical site preparation and cattle grazing. We support increased use of manual methods, low intensity prescribed fire, and avoidance of any kind of vegetation control instead.

SPECIFIC COMMENTS

Page II-44 : These wildlife stand "improvements" are beneficial only to edge species. This "improvement" is at the expense of interior forest species and not justified.

Page III-17 : As we have pointed out to the Ouachita National Forest planners, we cannot believe that only 20 acres of wetlands exist on the Ouachita National Forest. If this figure is from a current inventory, it is badly in need of updating.

SUMMARY

We find this Draft EIS seriously deficient. It is virtually impossible to determine the likely impacts associated with the various alternatives. Other impacts are omitted or inadequately discussed. In order to allow the public a chance to properly evaluate these important issues, a revised Draft EIS should be developed and distributed for comment.

6

Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

7

Your support for a modified alternative D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.

Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

8

We disagree with your statement that Wildlife Stand Improvement (WSI), both understory and overstory development, are beneficial "only" to edge species and that improvements are made at the expense of interior forest species. WSI for overstory crown development is primarily conducted in hardwood and hardwood-pine forest types to provide space for general tree growth, reduction in competition for light, water and nutrients, and enhancement of hard and soft mast production. WSI understory development is primarily conducted in pine and pine-hardwood forest types and seeks to mimic the more open habitat conditions found in prehistoric pine forest types that existed as the result of naturally occurring fire and on which the endangered Red-cockaded woodpecker depended. As noted on page II-49 (19) soft and hardwood mast producing species, existing snags, and den trees are retained. Snags (eventually becoming logs) provide foraging substrate for a variety of woodpeckers and other insectivorous animals and provide additional structural diversity; dens in living trees and cavities in snags provide cavity nesters such as owls, raccoons, and squirrels with nest sites; and hard and soft mast attracts a variety of wildlife ranging from black bears to woodland mice. While edge species may indeed use areas where WSI understory development has occurred, particularly when the treated area lies adjacent to a regeneration area, WSI offers a habitat niche not readily found in present day managed forests. The small number of acres annually treated by WSI methods and the judicious selection of WSI areas away from recently regenerated stands would likely reduce use by "edge" species and have little impact on interior forest dwelling plants and animals.

9

There are some differences in what the Forest Service and the Fish and Wildlife Service consider wetlands and what are shown in their inventories. Riparian areas involved many thousands of acres and receive special treatment.



Southwest Missouri State
UNIVERSITY

Department of Geosciences
(417) 836-5800

November 6, 1989

U.S. Forest Service
Vegetative Management EIS
1720 Peach Tree Road, NW
Atlanta, Georgia 30367-9102

Comments on Vegetative Management EIS

I am opposed to any future use of herbicides by the USFS for vegetative management for the following reasons:

1. Risk to environmental quality is unacceptably high for the benefits obtained by their use.
2. Water quality standards for use of some of the herbicides planned for use have not been established by E.P.A. (2, 4-D is the only herbicide with standards established by EPA).
3. Controlled or prescribed burning of areas that have been treated with herbicides can cause environmental damage to air and water quality with unforeseen consequences. (No scientific data to address adverse impacts).
4. Therefore, I support, by reference, the NCWA modified alternative D with reduce total acres of vegetative management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management program leaning towards Alternative A, no action.

I do not believe the risks are acceptable for herbicide use on public lands. Thank you for the opportunity to comment.

Sincerely,

David A. Castillon, Ph.D.
Professor of Geosciences

dlg

901 South National Avenue
Springfield, Missouri 65804-0089

Response to Comments in Letter No. 511

From: David A. Castillon

Comment No.

Response

1. Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
2. Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984). Section 5. General Standards (H) Toxic Substances - states the following:
(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be Carcinogenic will be addressed on a case-by-case basis.
Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.
3. Burning treated areas is discussed in chapter IV, part B, under brown and burn. Other discussions on effects on water are found in appendix C and in part G of chapter IV; effects on air quality generally arise from prescribed fire and are discussed in part H of chapter IV. Additionally, forests may impose more stringent requirements than those found in the mitigation measures in chapter II.

4

Your preference for a modified alternative D was included in content analysis of all comments received. Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

November 5, 1989

Greetings, My husband and I are writing to express our deep concern over Forest Service plans to conduct large scale poisoning on our public lands. We believe the risks are too great for our own well being and that of our natural resources. We do not agree with your assumptions of "acceptable risk". The data on which you base those assumptions is woefully inadequate. There is a lack of scientific evidence addressing the following issues; the adverse impacts of burning herbicide treated vegetation; adverse impacts on water quality in limestone and fractured sandstone bedrock; synergistic and cumulative effects using full formulations of herbicides and certain secret ingredients; neurotoxic and immunological effects; and whether or not these herbicides could be tumor promoters or enhancers, or initiators of cancer. Large scale use of these chemicals with such little scientific data would be criminal. We object to federal funds

1

2

Response to Comments in Letter No. 512

From: Katherine K. & Barry Feathersten

Comment No.

Response

1

Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.

2

Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients..." Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.

going to such chemical giants as Monsanto and Dow when the local economy is in such dire need of jobs and money. We would like the Forest Service to consider integrated pest management alternatives such as presented by Nama Greis in Regen 6. We support the NCUA modified total acres of vegetative management, the use of mechanical and fire methods on a low intensity basis primarily using manual methods

Sincerely,

Katherine R. Featherston

Bama, Featherston

HC 31 Box 77B

Jasper, AR 72641

3 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

4 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

5 Your preference for alternative modified D was included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Sirs,

November 2, 1989

I am submitting this response to your proposed vegetation management plan for the Quachita/Ozark Mountains. I also submitted a response to the amended Forest Service plan of 1986 on July 19, 1989. What I have learned since, about U.S.F.S. officials' attitudes concerning public input on this amended plan is disheartening, discouraging, misleading and shows downright insensitivity to the wishes of the majority of the responders.

One example that I offer for proof is the statement made by Gary Pierson concerning 148 petitions containing 4,100 signatures. According to Mr. Pierson 4,100 people didn't express their opinion on these petitions; only 148 opinions were expressed. Either Mr. Pierson is so stupid that he doesn't know how to count properly, or he and other high ranking U.S.F.S. officials are going to formulate another land and timber management plan that continues to ignore what the majority of the responders wish as stated in these petitions.

In Case you wish to check (or) these facts, obtain a copy of the August 25, 1989 Hex Springs Ark. Daily Newspaper. The Sentinel Record

All this double talk makes me wonder if I should even submit an opinion on the vegetation Management plan. However, there are still a few freedoms left in this Country and I can still express my opinion although I do not believe any one Caree, what my opinion is or will even read it.

I support Plan "B" as it is presented in the "Draft Environmental Impact Statement" Volume 1. It is my opinion that herbicides should be used very carefully because of the possibility of water contamination.

I believe that some or all of these herbicides may be carcinogenic in nature and therefore should be injected - locally applied and never, never, aerial sprayed.

The use of low intensity prescribed fire is beneficial from many standpoint and is highly desirable.

Response to Comments in Letter No. 513

From: Archie Gray

Comment No.

Response

- 1 Your preference for alternative B was included in content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
Potential effects on water are discussed in appendix C and in part G of chapter IV. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 2 Data on carcinogenicity is presented for all of the proposed herbicides in the Risk Assessment (page 3-34 through page 3-45). Aerial spray is not allowed in the Final preferred alternative and over 90 percent of all forestry herbicide use is required to be selective application.
- 3 Mitigation measures on Draft EIS pages II-46 to II-51 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat.

(5)
 As I stated previously, my opinion probably won't be considered in the least, but here it is. Anyway. I fully expect it to end up in file 13 because it probably isn't what you want to hear.

Archie Gray
 Rt 18, Box 132
 Hot Springs, Ark
 71901

4 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published.

NOV 5, 1981

To: John Alcock
Regional Forester

I am writing concerning the vegetation management decision to be made in the future being a supporter of the environment. I would have to say that I am against any future herbicide use by the Forest Service for vegetation management. My reasons are many and will list them below -

1. Herbicide use feeds the chemical companies and not our local economies as would manual methods. Considering our high unemployment rate, it only makes sense to employ manual methods.
2. Probably one of the most disturbing points here are the huge data gaps found in the human risk and wildlife risk assessments as found in VM Volume I, page IV-8+9 and IV 66+67. These gaps and these gaps alone should cease ALL HERBICIDE USE. Take page IV-9 number 5 for instance - experimental information is not available on the public's exposure to herbicides applied using current methods. Number 9 - data relating to cumulative effects are unavailable. How can you make decisions when you don't even have the facts. Just these
- 3

Response to Comments in Letter No. 515

From: Bob Morrison & Peg Davis

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 3 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.

Four pages could make one irate, human life, wildlife and plant life are only considered after the almighty dollar. This second guessing instead of solid data is a big mistake and shameful. What is it going to take? How many sicknesses or deaths do we need to accumulate before we change these hideous rules?

3. There are no studies of the synergistic and cumulative effects using full formulations of herbicides and their secret inert ingredients. This is a serious oversight considering one of the inerts in 2,4-D was dioxin.

4. This brings me to the burning of herbicide contaminated vegetation. Again due to the lack of data the UMDEIS does not adequately address the adverse impacts of burning herbicide treated vegetation. Nothing is said about the poisonous gases that could be emitted from these fires. I would have to recommend that there be no prescribed burnings in any areas that have been treated with 2,4-D in the past. The dioxins could be spread in the smoke since they are not destroyed at low temperatures. (UM Volume I page IV-4#4)

5. I see a big need for more research to be

4 There is significant empirical data suggesting that full formulations of the evaluated herbicides are predicabile in their effects. Neither synergistic nor cumulative effects have been shown for any of the products permitted for use under the preferred alternative. The inert ingredients for products proposed for use are disclosed in table -38 on page 3-49 of the Risk Assessment; they are not "secret." Dioxins were not inert ingredients; they were contaminants from the manufacturer of 2,4,-5-T.

5 Discussion of fire and herbicide potential effects is given in both the Risk Assessment (page r-61) and in the Draft EIS (pages IV-23 through IV-25).

done to fill these data gaps as stated in VM volume I page IV-147. Regardless of cost page II-67 "filling data gaps is an extremely expensive process. As in the evaluation of human health effects the Forest Service considers the accumulated costs of filling all of the data gaps prohibitive. If we really can't afford all the testing, lets leave the herbicides alone. Can we really afford to be the guinea pig? I should hope not. It is our responsibility on this planet to enhance life not to degrade it. Lets not take any chances -

6

6. The UMDEIS fails to assess final responsibility for any unforeseen adverse environmental impacts. The chemical companies find an out by printing "use at your own risk" which passes it on to the contractor. If the contractor has any misuse or accidents, the final responsibility will be with the public who allowed herbicide use to continue. We really don't know what could happen

7

7. The UMDEIS makes too many assumptions about "acceptable risk" pertaining to herbicide use. Who is calling these risks acceptable? Acceptable to whom? Certainly not me. And not to a lot of the public. Many times no risk was assumed even though studies had not been done to determine

6 We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.

7

Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

all possible effects.

8. LC50 and LD50 are inadequate alone to determine risk to humans and wildlife since they only take into account acute toxicity. Long-term, low level toxicity studies have not been done to predict the cumulative, synergistic long-term effects. Just because these studies don't exist doesn't mean we should go on using herbicides with our heads in the sand. We must know all possible effects even from low level toxicity before we can contemplate their use.

9. How come there are no water quality standards for most of the herbicides planned to be used by the Forest Service? How come the EPA and the states involved have not set these standards? Setting drinking water standards to the EPA's 100 ppm for 2,4-D is not enough considering it is the only one you have info on. We need stringent water quality standards with much research to substantiate the findings.

10. The risk assessment does not consider whether some of the herbicides may be tumor promoters or enhancers, or initiators of cancer in combination with other compounds that could cause cancer.

8 LD50 and LC50 are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.

9 Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:

(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.

10 Within the acknowledged limits of our knowledge, the value for "cancer potency" in the EIS (appendix A, pages 3-42 through 3-45) does include these concerns.

- 11 We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects.
- 12 The consensus among scientists that have studied the topic is that use of herbicides at our low rates (mitigation measure number 4, page II-53 Draft EIS) does not yield high enough concentrations to negatively affect soil microflora (appendix C, page C-10). The evaluated herbicides are not general biocides but are formulated specifically to affect the more complex metabolic processes of higher plants which are generally absent in microflora. Data presented on page II-95-96 (Draft EIS) further suggests that soil nutrients are neither destroyed nor lost in a significant amount when herbicides are used. Chapters 6-8 of the Risk Assessment (appendix A) indicate low risk to animal populations and chapter II includes mitigation measures which further reduce even that risk.
- 13 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.
- 14 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.
- 15 Your preference for alternative modified D was included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

- 11 3. 11. Studies need to be made to gather data on neurological and immunological effects from herbicides. There have been cases that indicate need for these studies. The E.P.A is at fault for not requiring this data before use. The Forest Service should not take advantage of this unsafe loophole.
- 12 12. The UMDEIS fails to mention possible adverse effects on the biodiversity of the forest floor considering that herbicides disrupt the natural processes that occur and fail to protect the soil from erosion.
- 13 13. I am totally against intensive mechanical site preparation considering the detrimental effects on soil and water quality.
- 14 14. I would like to see all threatened, endangered or sensitive plant and wildlife habitats left alone. This would insure a more stable environment with more natural disturbances taking over to which these species are already adapted.
- 15 15. My conclusion I believe a modified alternative D with reduced total acres of vegetation management be used. The use of mechanical and fire methods on a low intensity

basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A no action

NO RISKS are acceptable to me!!!

Thank you for this opportunity to comment

BOB MORISON *Bob Morison*

PEG DAVIS *Peg Davis*

HC 64 BOX 27
PETTIBERSU, AR 677-2139

7252

Let's leave a "clean" forest for future generations. The long run MUST be considered

I thought you might want to see the enclosed on non-herbicide Alternatives for Vegetation Management sent to me. Proceedings will be available free in December.

To: VMDERS Comments
 USDA Forest Service
 1720 Peach Tree Road
 NW
 Atlanta Ga

Dear Sir,

I am opposed to using herbicides in our national forests, because of the risks to contamination of the water supply. The potential health risks to humans, and to the wild life in the forests.

Also I am opposed to clear cutting practices. I am willing to

Response to Comments in Letter No. 516

From: Gary E. Harper

Comment No.

Response

- 1 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
 Existing roads are the main water quality problem in most Ozark/Ouachita Mountain watersheds. This fact is supported by the cumulative effects analysis for sediment (table IV-17, Draft EIS page IV-114). The EIS covers management of roadside vegetation on cut and fill slopes, but not of road surfaces or drainage features. Given these constraints on what the EIS can address, we believe our mitigation measures provide much stream protection is practicable. Measure number 22 (Draft EIS page II-45) requires permanent vegetation on all surfaces of intermittent service roads when they are closed and on cut and fill slopes of all roads. Measure number 8 (Draft EIS page II-52) requires a filter strip along all perennial and intermittent streams. Measure number 25 (Draft EIS page II-57) ensures that only manual tools and mowing, which expose virtually no soil, may be used within 30 horizontal feet of perennial and intermittent streams. No soil-disturbing tools are allowed to manage vegetation along roads or trails or in utility rights-of-way in any alternative (Draft EIS pages II-2 to II-17), so mention of sediment-reducing mitigation measures is not needed for them.
- 2 Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 3 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

pay more for paper products and for wood products if necessary.

Also if the prices of wood prep rises recycling of paper products may become more cost effective.

I am in favor of selective harvesting from a mixed hardwood and pine forest.

please be responsible stewards of our precious woodland heritage.

Sincerely

Quay Hagen MD.
1230 Peard Little Rock
Ar. 72205.

4 While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).

11-6-89

Dear Sir,

I have been advised that your Agency is accepting comments re the proposed use of herbicides in the Ozark/Ouachita Mountains for purposes of vegetation management.

I am strongly opposed to the use of herbicides for this purpose & strongly urge you to negatively endorse this proposal.

I believe the risk is unacceptably high & poses humans & animals at risk. No qualitative risk assessment was performed to determine the accuracy of data & infer the data base was lacking for the majority of herbicides proposed for use. I further believe the use of herbicides could disrupt the natural ecological process.

In light of the recent oil spills in Alaska & the east coast used, this is not the time nor manner in which to consider the use of our Federal managed lands.

I would support the NEPA (modified) alternative with reduced total areas of vegetation management, the use of mechanical & fire methods on a low intensity basis only, & finally using manual methods by an integrated pest management approach during burnings. A measure A, as per the

Cordially,

Debra Brown
Little Rock, AR

Response to Comments in Letter No. 517

From: Debra Brown

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received.
- 2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
Potential for causing adverse effects on non-target species is greatest when herbicides are broadcast on an area, which occurs with some ground application methods as well as aerial. These potential adverse effects are limited by mitigations covering choice of herbicides; application rates, methods, and timing; and use of buffers (Draft EIS pages II-52 to II-59).
- 3 Buffer strips for timber harvest have been specified in each Forest Land and Resource Management Plan and are outside the scope of this EIS. Filter strips for prescribed fire and mechanical tools, whose width in feet must be at least 30 plus 1.5 times the percent slope, have been shown by research and monitoring to trap nearly all sediment from vegetation management activities before it reaches the stream (Draft EIS pages II-47 and II-52). Buffers for herbicide use (minimum 30 horizontal feet for ground application) have been shown by research and monitoring to keep herbicide concentrations in streams below 0.050 ppm (Draft EIS pages IV-98 to IV-101). Each forest may be more restrictive than these widths, but widening them for our EIS is not justified by the facts.
Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 4 We are unaware of any relationship between oil spills and the proposed program of vegetation management unless you are urging that we evaluate accidents. Appendix A and chapter IV do evaluate accident scenarios as required by the Council on Environmental Quality Regulations, 40 CFR 1502.22.

5

Your preference for a modified alternative D was included in content analysis of all comments received. Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

November 6, 1989

V.M.R.E.I.S. Comments, USA Forest Service

1720 Peachtree Rd NW

Atlanta, Georgia 30367

Dear Sirs

I am writing in regard to the Draft Environmental Impact Statement for Vegetation Management in the Ocala/Ouchita Mountains. I oppose any use of herbicides or

- 1 pesticides on public lands. In general, the long term and synergistic effects of these chemicals on nontarget plant and animal species is not known. It is in the public best interest that herbicides and pesticides not be used on National Forest. If the forest were being managed by maintaining the natural diversity, there would be no need for the use of chemical control pest species. I would stand for a diverse forest. I support the Alternative A, no action. I appreciate the opportunity to express my opinion.

Cordially

Tony L Morris

Tony L Morris

Response to Comments in Letter No. 518

From: Tony L. Morris

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk. Long term mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
 - 2 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
 - 3 Part B of chapter IV also discusses synergism.
 - 4 Potential effects on species composition and habitat are discussed in parts C and D of chapter IV of the Draft EIS.
 - 5 Discussions of even-age or uneven-age management are not within the scope of this EIS. These issues are discussed in Forest Land and Resource Management Plans.
 - 6 Your preference for alternative A was included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

November 5, 1989

Mr. John E. Alcock, Regional Forester
USDA Forest Service
1720 Peachtree Road, NW
Atlanta, GA 30367

Dear Mr. Alcock:

The day before the last day of the comment period for any Forest Service management plan is not an impressive time for anyone to send their comments to you--I am sure you could rightfully feel that not much thought had been given to the subject by the commentator and that a last-minute, slap-dash treatment of the subject would not be worth your time. Though late in the comment period, this letter is being written with sincerity and after much review of Volume I and II of Vegetation Management in the Ozark and Ouachita Forests. I am a lay person and have been unsure whether I should use your time to hear my thoughts, since I am under-educated in the intricacies of your purpose and need, the alternatives, the environment and the environmental consequences of what you plan to do; however, I am interested and concerned. Because of that concern, I attended a meeting at Jasper earlier in the year at which members of your Service answered audience questions and presented copies of your EIS. Since then I have consulted with people who are regarded as knowledgeable in their field regarding several items which concern me particularly. Recently Mr. Jack McCormick of the Forest Service presented a tour of sections of the Ozark National Forest as part of the program of the Arkansas Audubon

Society's fall meetings. His program was primarily about clear cuts; however, as a result of that tour some of the questions which were a part of my rough-draft comment are obsolete. My worries remain, however, concerning other parts of your program.

I live in a small section of private land which is surrounded by the Ozark National Forest. I enjoy feeding deer and birds, and have been surprised to see some birds, such as the indigo bunting, stripping the buds from my trumpet vine after their earlier choice food supply was exhausted, which explained why my vines stopped blooming while those at friends' houses were luxuriant. Earlier in the year I had observed my squirrels clinging to the very end of tree branches to eat the tiny green buds which appear early and later become their acorn supply. I am, therefore, concerned that while established patterns of food selection by birds and animals are well-known to people who are expert in that field, there are times possibly during which vegetation destroyed by herbiciding in our National Forests might be vital to the welfare of wildlife which ordinarily consume other food. A column in a small area newspaper mentioned a writer's surprise about some other budding flowers furnishing food for still other birds. The birds which I observed and those observed by the nature-column writer had at their bills tips sunflower seed, millet, thistle seed, all of which they ate at various times. At Mr. McCormick's recent presentation, I was

Response to Comments in Letter No. 519

From: Jerry C. Hall

Comment No.

Response

1 Toxic effects on wildlife, as well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Vegetation management is necessary to accomplish many resource management goals and objectives. Environmental conditions at the project level will determine the specific need for, and amount of, vegetation management to be done. Target plants, as well as some individual non-target plants, are injured or killed by all vegetation management methods. However, as mentioned above, mitigation measures, such as numbers 17, 18, and 19 on pages II-44 and II-45 of the Draft EIS require that projects be designed in such a manner so as to protect and manage for a variety of species.

pleased to see beautiful violets and other wildflowers growing in an area which had been treated with herbicide in the past, but I am unsure of the time required for those tiny plants to recover, and what might have used them in the past as supplements to their diet and what became of them when those plants had disappeared. Granted that those plants might be temporarily destroyed during a cutting/clearing process, but would they have been absent from the forest as long as they were after herbiciding? Have those plants returned in the same whole-some manner in which they grew formerly?

I was surprised to read on Page E-2 in Appendix E under

2 Table E-2--Plant species listed by the US Fish and Wildlife Service as endangered, threatened, or proposed, occurring in the Ouachita and Ozark National Forests: "There are no plant species listed as endangered, threatened, or proposed."

My husband and I have chosen to heat our home with firewood supplemented by electric furnaces, because there is an abundant supply of firewood to be purchased. Recently I became mildly concerned after hearing of a friend's frightening experience with breathing problems after being exposed to smoke from her fireplace. An investigation that showed poison ivy to be the culprit explained why my left wrist has broken out often in the middle of winter--I had carelessly exposed my skin to what I thought were dead and therefore safe vines entwined about the wood. These days I don't sit as close to the fire. And I am now very much worried

2 There are no plant species occurring in the Ouachita and Ozark National Forests that are listed by the U. S. Fish and Wildlife Service as endangered, threatened, or proposed. Table 4 on pages E-6 through E-10 list plant species listed as sensitive by the U. S. Forest Service.

about what I may be inhaling besides poison ivy -- dioxins, gases, acids --- my woodburning fireplace insert operates under the category of "smoldering" fires referred to in your volumes, and which do not appear to destroy the adverse breakdown products of dioxin, etc. In a tightly closed house in winter with fumes from a smoldering fire keeping us snug and warm, are we being poisoned slowly?

At the Spring Meet of the Audubon Society I was introduced to the world of fish--the tiny ones who hide under rocks in the streams. I was so captivated by my hours in the streams with patient ichthyologists and lay people observing those minute rainbows that I purchased the book "Fishes of Arkansas" by H.W. Robison and Thomas M. Buchanan, which shows the location of the leopard darter in Arkansas. As your study states, it has not been collected within the National Forest boundaries. However, according to a friend and expert in that field, it does occur immediately downstream from National Forest areas in both the Mountain Fork and Cossatot Rivers, and would be subject therefore to exposure to herbicide runoff from National Forest areas, along with the entire fish community. My friend has concerns that at present no one can adequately assess the potential effects, and he feels that the risk is unnecessary.

The fate of the red-cockaded woodpecker has been an especial interest of mine for some time, and as a result I have met some Forest Service people at Waldron and at Felsenthal who have impressed me by their dedication to the preservation of that woodpecker. Therefore, I find your listing of the some of the possibilities of harm to that woodpecker from herbiciding difficult to reconcile.

3 Please see response to comment number 4, Letter No. 245.

4 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

By applying herbicides at low rates (Draft EIS page II-53) and using buffers (Draft EIS pages II-57 and II-58), surface and ground water will be protected very well (Draft EIS pages IV-97 to IV-106).

5 Please note that potential injury disclosed in the EIS is part of the full and fair discussion of this subject. While we recognize the potential for injury, we also include mitigation measures in chapter II (pages II-38 through II-59 of the Draft EIS) to minimize the possibility of occurrence of these impacts.

I have met the staff of the Poteau District of the Service at Waldron, and enjoyed the tour which they made available to the public last March. I have met Jack McCormick with the

Ozark Service, and several people at Felsenthal. I have not yet met a member of the Forest Service who has not showed a deep concern for the Forest, and a sincere interest in what the general public feels about their forests. Your Volumes I and

II of the EIS are presented in a way that even I can understand

much of what you say--you have presented both pros and cons in an objective manner. I do feel, Mr. Alcock, that the savings in time and money which might be gained by the use of your plan for herbiciding in our National Forests become minimal in view of the fact that there is still so much to be learned about the effects on people and wildlife. I hope that the use of herbicide in our forests will be reconsidered. This long and late letter lists only a few concerns, and I am unable to present knowledgeable persuasive facts to explain all of my concerns. This is my opinion--and I hope you will listen well to all the people who are adequately knowledgeable on this subject and who speak for those of us who love the forests, the wildlife, and each other.

Sincerely,

Terry C. Hall

(Ms.) Terry C. Hall
Route 2, Box 354
Mountainburg, Arkansas 72946

6 The interdisciplinary team took its writing assignment very seriously and is pleased that you find the EIS readable and objective.

7 The commenter's concern regarding the use of herbicides has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Nov. 6, 1989

John Sundquist
213 S. Bloek #2
Fayetteville, AR 72701

Dear Sirs:

I read an interesting chapter in a book compiled by Zero Population Growth, titled- USA by Numbers.

chapter # 10, Water Use and Abuse
page 117, 1st paragraph

Population Growth and Declining Water Levels

Though life is impossible without fresh water, it is in shockingly finite supply. The World Resources Institute calculates the 97% of the Earth's water is saline, and of 3% that is fresh, an estimated 77% is frozen in glaciers and ice caps. Groundwater and soil moisture make up much of the fresh water that remains, leaving only 0.35% in lakes and swamps and an infinitesimal 0.01% in rivers and streams.

-end of quote-

That leaves 0.33% ground water for our consumption. It has to be protected at all costs, the next generation(our children) will have to deal with it. What is our excuse? It is convenient to use chemicals. And where does these water soluble chemicals go? They do not brake down, they are absorbed into the soil then into the aquifers for flow down stream.

I am against the use of chemicals.

Thank you for your time and patience,
John Sundquist- *John Sundquist*

Response to Comments in Letter No. 520

From: John Sundquist

Comment No.

Response

- 1 Appendix A contains a Risk Assessment which deals with effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. This appendix also details chemical properties and behavior of the herbicides evaluated for use by the Forest Service. Appendix C contains further detailed information regarding potential effects on water, and part G of chapter IV discusses some of these possible effects.

Potential for causing adverse effects on non-target species is greatest when herbicides are broadcast on an area, which occurs with some ground application methods as well as aerial. These potential adverse effects are limited by mitigations covering choice of herbicides; application rates, methods, and timing; and use of buffers (Draft EIS pages II-52 to II-59).

Buffer strips for timber harvest have been specified in each Forest Land and Resource Management Plan and are outside the scope of this EIS. Filter strips for prescribed fire and mechanical tools, whose width in feet must be at least 30 plus 1.5 times the percent slope, have been shown by research and monitoring to trap nearly all sediment from vegetation management activities before it reaches the stream (Draft EIS pages II-47 and II-52). Buffers for herbicide use (minimum 30 horizontal feet for ground application) have been shown by research and monitoring to keep herbicide concentrations in streams below 0.050 ppm (Draft EIS pages IV-98 to IV-101). Each forest may be more restrictive than these widths, but widening them for our EIS is not justified by the facts.
- 2 Your opposition to herbicide use was included in content analysis of all comments received.

November 4, 1989

To: Gary Sick
Dr. Paul A Mistretta
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

From: Basil M. Kyriakakis
HC 60 Box 73
Parks, AR 72950

Re: Management Bulletin R8-MB 23 June 1989

Dear Gary and Paul:

As promised here are my comments and concerns on VMDEIS.

I must admit it has been rather hastily prepared due to time constraints. The very reason that makes me uniquely qualified to comment is hindering my participation. Nancy & I are the only human inhabitants within fifty thousand acres of wilderness that many of the amenities of civilization do not reach.

I enjoyed our discussion at the October 25 meeting and hope you had some time to personally witness some of the beauty of our little forest, particularly this time of year.

Sincerely Yours



Basil M. Kyriakakis

P.S. Pages II 55 & 56 Vol. 1 are missing from my copy of DEIS I'd appreciate if you could send me a copy.

From: Basil M. Kyriakakis

Response

Comment No.

- 1 Neither Dutch elm disease spores nor any other fungal spores are routinely carried in smoke. Heat even from low intensity fires is sufficient to kill virtually all fungal spores. Rapid spread of disease is not attributed to any of the vegetation management practices evaluated, except where manual and mechanical cutting tools are improperly used.
- 2 Livestock is evaluated but not proposed as a biological control in either the Draft or Final preferred alternative. The grazing program is outside the scope of this EIS.
- 3 Cumulative effects of sediment (Draft EIS pages IV-110 to IV-116) shows that even alternative H (the most intensive) would have negligible impact. Preferred alternative F produces only 21% as much sediment as alternative H.
- 4 40 CFR 1502.2(b) requires impacts be discussed in proportion to their significance. Given the very low probability of accidental spill of diesel fuel in the mechanical/manual scenario, this risk was not considered to be significant.

COMMENT ■■ DEIS VEGETATION
Management Ozark/Ouachita National Forest

Comments will be presented according to proposed practice regardless of alternative. where practices are combined additional remarks will be made. References are to VCEIS vol. I & II marked reprint.

Prescribed Fire

1 The Dutch Elm disease that destroyed the American Elm also affects most oaks and to lesser degree Hickories, although not fatal, it does kill large limbs and shortens the lifespan. We have identified Dutch Elm disease on White Oak in the Ouichatae. One of the reasons that the disease spread so fast in the Northeast has been attributed to the burning of the dead wood. The spores went up in the smoke and settled on the uninfected trees. This mechanism of airborne (smokeborne) spreading of disease must be addressed. The brown and burn practice will be discussed separately.

Biological Control

2 Livestock is proposed as vegetation control. Potential hazard to wildlife by disease is mentioned (IV-81) in addition there is the potential of transmission of Bovine Brucellosis which has been reported for deer. Furthermore enhance the spread of this disease to neighboring cattle herds. The human variety of the disease known as Malta Fever or Undulant Fever could be contracted by people that come in contact with infected cattle in various ways. This can be mitigated if disease free certified animals are released. Both Arkansas & Oklahoma livestock commissions offer such certification programs. Parenthetically this should also be required for grazing permits (not done now).

Mechanical Control

3 Concern here is in any ground disturbance that produces significant silt. Once ground is disturbed we know of no way to stop silt from moving with runoff water. Field evaluation has shown amount of silt 1mm or more deep left after evaporation from runoff water 25cm in depth decanted after 12 hours. When major runoff flow stops pools of water in depressions in creeks and streams slowly evaporate leaving behind this deposit. Particles appear to be 10µ or less. The effect is cumulative, although not additive. This condition has been observed continuously for at least five years, in spite of revegetation management, from the same disturbed area. Eventually the pools and depressions (usually rock, gravelly bottoms) lose percolating properties and adjacent soils (fields, meadows and cropland) dry up. Sufficient silty soil is accumulated that vegetation takes hold, which in turn traps sediment, humus and larger particles; more vegetation is encouraged and storm flow is obstructed whereupon bank erosion begins. What is described here is not a potential hazard, but a well observed and recurring. Since silt cannot be stopped once colloidal suspensions are made the only mitigation is to prevent its formation.

4 Mechanical control involves use of diesel (mostly) or gasoline powered equipment. It is the normal practice of operators to carry supply tanks of fuel, 200-1000 gal. or more. Potential of accidental spills have not been addressed by VCEIS. Usually the equipment used is left on site from day to day and servicing takes place there; change of crankcase and transmissions oils, hydraulic fluids, coolants etc. The accidental and probably occasional intentional discharge of "used" hydrocarbons, glycols, etc. must be addressed.

Manual Control

Most hazards, risks and exposure during manual control have been analyzed and addressed adequately in the VDEIS.

Chemical Control

It is not surprising that hazardous, exposure and risk analysis of herbicides has received substantial attention. It is unfortunate that valuable tools for the advancement of civilization have become the very instruments of its destruction by overzealous promoters of instant gratification. The global phenomenon of chemical abuse is not limited to narcotics. Where the answer to every problem, be it a personal discomfort or undesirable pest or a noxious weed is the prescription of some miracle chemical the implication, by word and deed, to those outside the priesthood of technocrats is that anything goes. Hysteria replaces common sense and good science. If the scientific community does not respond and the voice of reason is not heard the Library of Alexandria will burn again and Galileo will face the tribunal one more time. One after the other valuable compounds are banned not really because of possible hazard but rather as a result of misuse and abuse. Even in the best case scenario, if all data gaps (identified in the DEIS and pointed out by others) are filled, if the chemistry was perfectly understood, if all ologies were available even then the risks from hazardous exposures remain so high that the most prudent path must be taken.

Of the seven herbicides mentioned as most likely to be used only glyphosate emerges as a possible candidate for a very limited application. Materials do not have civil rights; every one is to be assumed guilty until proven innocent.

Burning from the chemists point of view, is a chemical method. It encompasses chemical practices and principles such as oxidation/reduction, pyrolysis, distillation, steam distillation, destructive distillation, cracking, recombination etc.

The topography of the Ouachita is well defined and documented in the DEIS (III 2-7). Statistics on Socioeconomics (III 21, 26), however, are for the entire states of Arkansas and Oklahoma not those of the region within and immediately around the National Forests. The economic activity of this region is mostly agricultural and more precisely in livestock of beef, poultry and some dairy. This activity is concentrated in the arid little river and creek valleys. These lands are in food production as pastures, hay meadows and cropland. There a farmer may use a large variety of chemicals, herbicides as well as pesticides, directly on land or treating herds and flocks; meanwhile only a few yards away in the forest some other chemical is used. Therefore synergism as discussed (IV 22-23) must be expanded to include all chemicals available for use in the region.

The DEIS (IV-120) identifies river valleys with an acute problem of smoke-fog mixture which is further complicated with fires smoldering into the evening (IV-121). These are the same valleys that the human activity takes place in and here is where the smoke precipitates. The DEIS statement that workers are most at risk and eight hour/five day week figures are used is self contradicted and indeed invalid. The cold smoke settled in the valleys depositing on the land (pastures, hay meadows, gardens and cropland), ash, particulates, distillates and sublimates, such as terpene (used in the floatation of lead and zinc ores), oxalic acid (which decomposes to carbon monoxide and formic acid), phenols, toluene, xylenes, etc in addition to the polycyclics. Nitrogen oxides, under pyrolytic conditions react with activated hydrocarbons generating, among others, heterocyclics such as quinoline.

5

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require. See also our response to Letter No. 498, comment 7.

6

More detailed data on socio-economic conditions can be found in Forest Land And Resource Management Plans. Our discussion on page III-22 points out many of the deviations from state-wide trends you suggest. Our analysis recognizes the potential for other chemical compounds in the environment from many sources.

Our discussion of possible synergisms (appendix A) reflects this recognition of chemicals from other sources and takes into account the limited potential for mobilization of the seven herbicides and four additives we are proposing for use.

7

While recognizing that there is a real concern for public health expressed in this comment, we must point out that the comment overlooks dilution of any potential contaminants in a huge potential volume of air, and the fact that valley fogs form far less frequently than workers are exposed to smoke. The information presented accurately portrays workers as the persons at greatest risk.

Sulfur is very abundant in the Ouachita's surface soils in the form of pyrite; organo-sulfur compounds (mercaptans, thiocols etc) are possible. How about silanes and other organometallics? The mixture gets far more complicated where herbicides have been applied. These deposited compounds get consumed directly, by people on vegetables and produce, by livestock on grass and stored hay. The food chain has been compromised with tainted meat and milk not only locally but far wider distribution. Of greatest concern is the presence of Polycyclics. These "chicken wire" chemicals like methyl cholantrene, for example where a single molecule could incite cancer growth on contact. Even though some of the amounts are small we know very little to nothing on synergistic effects of herbicides and pyrolysis products.

On Cultural Resources

The DEIS (IV 126-127) skirts over the subject very lightly. Among others, there is a very endangered set of artifacts that Vegetation Management will obliterate. The long gone inhabitants of the Ouachitas did not build Parthenon or Pyramids. They produced no artifacts that time did not erase by simple abandonment. But they did leave us with living artifacts. These are in the form of vegetation. For a few days in the spring one can spot the location of many a homestead by the row of blooming daffodils and narcissus, the occasional fruit tree, the little plot of wild asparagus and the garlic patch. What time did not touch, let no man destroy.

REVIEW OF IMPACTS

Wildfire

Risk of wildfire is overstated. Fuels do not continue to increase forever; natural decomposition becomes more rapid as layers of humus accumulate, retaining moisture, further encouraging survival of microorganisms and other cellulose consuming insects. As the humus layer increases even the most decay resistant varieties of wood sink into it, get covered with moss. On the contrary as human manipulation increases, so does the danger of wildfire.

Socioeconomic

Economic displacement is used in evaluating alternatives. The mere fact that some activity generates jobs and income should play no part in decision making when such activity conflicts with life, liberty and the pursuit of happiness. Otherwise what is the objection to opium fields in Turkey, slave plantations in Atlanta or crack-houses in Little Rock. Loss of revenue to localities has been used as a threat to public officials to extort endorsements of maximum production plans, consequently VM requiring maximum manipulation. There are other mitigating measures that can be applied legislatively. Different revenue sharing formulas etc; all outside the scope of this DEIS.

8 Vegetation is dealt with in the section on Vegetation (section IV.C beginning on page IV-30 of the Draft EIS). Discussion of management philosophy of vegetation is a cultural artifact beyond the scope of this EIS and should be done in the Forest Plan. Nonetheless, mitigation measures 12 and 13 on pages II-42-43 of the Draft EIS afford protection.

9 We disagree with this scenario. While it is true that decomposition removes much potential fuel annually, and fuel accumulation and decay ultimately balance, the amount of fuel in an equilibrium forest is sufficient to support a high intensity fire. For a variety of reasons stated in the EIS, high intensity fire is not desirable. Only through prescribed burning of fuel before accumulation becomes dangerous can we protect the forest and surrounding areas from destructive fire (Draft EIS, page IV-124).

10 Potential economic displacement is disclosed as one possible significant effect on the human environment. However, choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. Manual methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

PROPOSALS

11

Starting point alternative A, modified to deal with:

- a) Fast mismanagement. Areas for example clearcut with slopes more than 30%
- b) All right-of-way
- c) Trails
- d) Range habitat (including T & H splines)

Practice & tools

- a) Prescribed fire; only limited grass fires
- b) Biological Control: None (see research)
- c) Mechanical Control: Only very low impact mowing
- d) Manual: As outlined in DEIS II-26 in addition removal of bulky fuels, which could either be marketed or disposed.
- e) Herbicides: Use of glyphosate with special backpack/hand held sprayer only (see appendix A)

PROJECTED ACRES/YEAR BY METHOD BY PROGRAM:

Programs	Method			
	Herbicides	Mech.	Fire	Manual
Projected acre/year	3,325	7,150	5,000	15,900
Fuels treatment	0	0	0	5,000
T&E & other range habitat	1,000	150	5,000	1,500
Trails	0	0	0	400
All roads & NOW	325	4,000	0	1,000
Site prep all	1,000	3,000	0	3,000
Timber stand Imp. all	1,000	0	0	5,000

RESEARCH

In addition to VDEIS IV-147.

1. Genetic engineering
2. New tools for vegetation control both manual and mechanical that create less soil disturbance
3. New methods of applying herbicides

APPENDIX A

Special Sprayer.

To minimize accidents to environment and workers we propose use of a sprayer that consists of a back pack of compressed air supply (manual pump or refillable on site) delivering a regulated stream of air (both high and low limits ie 32-28 psi) to a prepared canister containing the appropriate herbicide solution. This solution going through a hose to a trigger that once activated will deliver a single burst of preset duration (2-3 sec) to a nozzle covered by a hood placed over the noxious weed; such a hood should have a ground activated valve so that no spray will occur unless firm contact is established.

Barclay K. ...

11 Your proposal would treat about half the acres of alternative B, with a 60-70 percent reduction in wildlife and site preparation treatments, and a heavy emphasis on manual methods at the expense of prescribed fire and herbicides. Given the constraints applied to alternative B (Draft EIS pages II-2 to II-4), the environmental effects of your proposal would be very close to those of alternative B, except for higher risks of worker injury and more wildfires and related soil risks with your proposal. It could also be concluded that your proposal falls short of meeting several Land and Resource Management Plan objectives.

HC 60 Box 73
 Parks Arkansas 72950
 Nov. 5 1989

U.S.D.A. Forest Service
 1720 Peachtree Rd. N.W.
 Atlanta, Georgia 30367

Response to DEIS Ozark/Ouachita Mts.

- 1 I prefer alternative A.
- 2 I prefer historically proven sound methods of harvesting timber by selective cutting.
 I do not approve of log skidders; (heavy equipment) to move logs; they are very destructive.
 Mules/Draft horses move timber economically. They do not waste the surrounding vegetation nor harm the soil surface. No matter how ignorant or unethical the contractor and his team are; they do much less damage with animals than heavy equipment.
 I do approve of building, well planned and engineered, permanent roads to transport logs and give access to the forest

Response to Comments in Letter No. 522

From: Nancy C. Kyriakakis

Comment No.

Response

- 1 Your preference for alternative modified D was included in the content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

- 2 Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools. Intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

for the citizens. These roads should be maintained as part of the national road network. The Quichitas National Forest is a large Park, owned by the citizens of the U.S.A., for recreation purposes as well as to preserve trees, history; its economical advantages are an extra side line.

I do not approve of poisoning the deciduous ^{trees}, or trying to eradicate them by any other means. They have many values, I do not understand why you cannot recognize that they are an asset.

I do not approve of poisoning flowering trees, shrubs, ~~and~~ food producing plants, or trying to eradicate them by any other means. They give pleasure and support life; both human and wild life.

I do not want to see any national forest become a huge field for any one crop. First, a national forest is not a field, or scientist's play ground, or experimental laboratory. It is many things to many diverse people of many diverse points of view. But, by its name designation -

3

3 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, ■■ supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, ■■ amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

4

4 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

it is a National Forest.

National = of a nation and our fellow countrymen
 Forest = a dense growth of trees and underbrush
 covering a large tract of land, belonging to a nation
 supporting game, and sports (recreation).

al accuse the forest service of not
 always having good management practices
 and sometimes being lazy at supervising
 As a citizen/farmer, living on a private
 tract of land which happens to be
 located within the Ouachita National Forest,

I have heard many complaints from
 others of what their experience has been
 having the National Forest Service as their
 neighbor. After hearing these complaints
 for some years now, and experiencing a
 few small problems myself, I am amazed
 to have you offer this DEISM to us.

A pine plantation cannot support life.
 Poisoned ground and vegetation trips to
 eradicate life. Please refer to the
 incidents in NW Arkansas 1975 to 1980
 and the use of a chemical I know of as
 "Agent Orange". There should have been
 sufficient data from Vietnam use to

5 We agree that the Forest Service's public image is an important factor in our future. During the process, many of the public issues were raised and addressed in the EIS and resulted in considerable new emphasis and direction in carrying out vegetation management activities. By following the mitigation measures listed in chapter II of the Final EIS, it is our objective to promote a positive and responsible image.

tell you not to see it. Perhaps
the decision-maker couldn't be
bothered to be interested.

I do not give my consent to USFS
and/or its contractors to use chemicals, or
poisons in our forests for any reason.
I do not consent to have our forests
laid waste or turned into pine
plantations. I do not consent to
having fuel trees wasted, hardwoods
and deciduous trees and/or other
species eradicated. I do not give my
consent to poisoning myself or any
other portion of the population.

Historically, the USFS has destroyed
their credibility. USFS has a long road
ahead of them to build confidence and
credibility with their neighbors and
citizens.

Very truly yours
Nancy C. Kyratukis

Mason Moore
54 Oaklawn Drive
Mena, AR 71953
November 3, 1989

Ouachita/Ozark VMDEIS
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Sir:

For several years, until recently, I worked as an apiary inspector for the State of Arkansas. As such, I had the opportunity to travel extensively over most of the Ouachita area. In the course of conversing with the people I met, dissatisfaction was often expressed to me about the clearcutting of the National Forest. I do not know why these concerns should have been expressed to me, but perhaps I was identified with government in general.

In any case, I can understand their concern. Since I was a boy I have seen Forest Service policy go from that of protecting the public trust to extensive commercialization of our public lands. In recent years we have seen time and again the unexpected, long term damage to eco-systems, human health, and overall quality of life that results from extensive interference with the environment. How much of our planet must we destroy before we learn, or do we really care?

The founding fathers of our nation spoke often of posterity. Their actions, such as the framing of the Constitution, were often taken with posterity, you and me, in mind. It certainly was not likely, after what they had experienced,

Response to Comments in Letter No. 523

From: Mason Moore

Comment No.

Response

1 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

that they would allow liberty to slip beyond the grasp of their generation, with or without a Constitution. But we seem to have lost all perspective. Already we pass along a multi-trillion dollar debt to those who are yet to come. Must we leave a constantly degrading environment as well?

There are extensive areas of the country that are more suitable to pine cultivation than erodable mountain slopes. Mountains often provide more unique habitats for flora and fauna per unit land area than areas of more gentle topography. Last weekend I saw a plant in the Ouachitas that is known to grow only on a single mountain. We have in the Ouachitas a resource that is unique between the Eastern and Western mountains, a resource that brings considerable wealth into the area via tourists and retired persons. Needless to say, loss of environmental quality will be reflected in the loss of this source of income. What is gained, if in building houses, the home is destroyed? I challenge you to do what any person of conscience and humility would do, treat the earth with greater respect.

Respectfully yours,

Mason Moore
Mason Moore

P.S. In the course of inspecting, numerous beekeepers in the Ouachitas have told me that in their areas populations of honeybees have been seriously effected, occasionally to the point of complete disappearance. They ascribed this to either herbicide toxicity or den destruction from clearcutting. One can only speculate about the effects on indigenous pollinators. All these pollinators are extremely beneficial to flora and fauna, both feral and domestic. Many have expressed that their gardens are inadequately pollinated. Some buy a hive of bees for pollination, but wildlife cannot.

Throughout the wildlife section of appendix A, bees are cited as an invertebrate species specifically because of the concern you express. Much data does exist for bees since they are maintained for honey production in many areas. All 11 herbicides evaluated were of low toxicity to honeybees. Three additives (diesel oil, kerosene, and limonene) have insecticidal properties when sprayed as contact poisons on insects. However, our use pattern minimizes the contact poison potential, especially since herbicide treatments in the general forest area must be 95-100 percent selective and mitigation measures will hold drift to a minimum (section IV.G.1).

PUBLIC COMMENT
HERBICIDE USE ON OUACHITA/OZARK NATIONAL FOREST

- 1. the undersigned taxpayer and recreational user of the National Forests, make the following comments on the Vegetation Management Draft Environmental Impact Statement for the Ozark/Ouachita Mountains. I oppose the future use of herbicides by U.S. Forest Service for vegetation management because:
 - () Of extensive data gaps in the human risk and wildlife risk assessments as stated on pages IV-6 & 9, and II-60 & 67, Volume I, as stated on page IV-147, Volume I.
 - () Of failure to note needs for research on: neurological and immunological effects on humans; total lack of research on "full formulations" of proposed herbicides with all inert ingredients and possible contaminants along with their break down byproducts and metabolites;
 - () Of failure to perform qualitative analysis of data to determine scientific verifiability.
 - () VMDIS does not adequately address the burning of herbicide treated vegetation for dioxins, difurans, chlorine gas, cyanide, phosgene gas or chlorine dioxide.
 - () Possible adverse impacts on biodiversity and threatened and endangered species; and
 - () USFS has previously failed to monitor and report herbicide spills onto workers at rates higher than the worst case analysis in the Buffalo District of the Ozark/St. Francis Forest in April of 1989.
 - () The VMDIS fails to properly assess the impacts upon diversity, water quality and water quantity.
 - () The assessment of impacts is based on Ozark and information which are inappropriate to the Ouachita/Ozark Mountain region. (Unless otherwise indicated by checkmarks individually.)

Therefore, I find the risks associated with herbicide use unacceptable and recommend that our public lands not be managed with herbicide use. Who will take the final responsibility for herbicide use where, as here, chemical manufacturers state that use is at the user's own risk and USFS is immune from civil suit for damages?

I am also critical of the fragmentation of the vegetation management issue into two documents: the LRP and VMDIS, therefore I support by reference U.S. Fish & Wildlife Service Memorandum dated August 3, 1989 for protection of endangered species and habitat, forest fragmentation and abundance of existing early successional habitat and U.S. Department of Interior letter dated August 11, 1989 which replies to Ouachita SRIS LRP. I also reference the Attorney General of Texas' letter response to VMDIS for Texas.

Therefore I support a modified Alternative D as proposed by Newton County Wildlife Association, Ouachita Watch League and Northwest Arkansas Environmental Guardianship, including long-term study to eliminate the need for vegetation management through more ecologically sound timber practices, such as ECWA's Flexible Forestry, including:

1. Reduced vegetative manipulation to 75,000 acres per year in light of revisions and amendments to current LRP's;
2. Only low intensity prescribed burns on acreages which have not had herbicides applied in the last 10 years;
3. No intervention in habitats which might support any endangered plant or species until long-term studies indicate impacts appropriate to the habitat.

(continued) -->

3 Please see the herbicide use mitigations in section II.E.2.c of the Final EIS. Many of these measures are designed to protect non-target organisms (both plants and animals) and several are designed specifically to protect threatened, endangered, proposed, and sensitive species. Also note that we are emphasizing selective rather than broadcast treatments (Draft EIS page II-12) and lower application rates (page II-53; Item 4 in the Draft EIS). Silvicultural herbicide treatments are 95 percent selective in the general forest area, posing minimal risk to non-target plants.

4 In this EIS, we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, page II-38-39) recognizes the requirement for managing to maintain biological diversity.

5 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

6 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS and have not included several issues which were discussed in Forest Land and Resource Management Plans. We are uncertain why you believe repeating those issues and associated analyses here, when they are already available in another document, would aid the decisionmaker in making a reasoned choice among alternatives. What surely would have been achieved is unnecessary complexity.

(continued)

- 4 Manual methods of treatment with some low intensity mechanical wildlife treatments and site prep, using mechanical site prep methods which expose no more than 5% of soil on a site;
- 5 No firewood permits for herbicide treated wood.
- 6 Increased use of uneven aged timber management to reduce the need for vegetation management which is caused by excessive opening of the forest canopy by current even age management which allows full sun to reach the forest floor.
- 7 Maintenance of mixed forest condition with a mix of species in various sizes and numbers as existed on each stand prior to manipulation by vegetation control which necessarily must be considered in conjunction with harvesting techniques.
- 8 Use of biological treatment which do not include domestic animals since deer are already present in sufficient numbers to control vegetation.

THANK YOU FOR THIS OPPORTUNITY TO COMMENT!

Please count this comment as 1 persons favoring "Flexible Forestry" VMEIS Modified Option D. Our/my address is:

MARION MIDDLE
NAME (Print) W. W. Moore Signature

54 DAKLAWN DRIVE
Street/Postal Address (Print)

MEMPHIS State 71423 Zip

Please provide a very legible name & address and sign before mailing!

Your comment will be excluded by USPS if not postmarked by November 8, 1989. MAIL TO:

Return address: -----
↑ FOLD HERE ↓

Place Stamp Here

OUACHITA/OZARK VMEIS
USDA FOREST SERVICE
1720 PEACHTREE ROAD, N.W.
ATLANTA, GA 30307

Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

October 13, 1989

For the Record

Subject: Telephone response to request for comments,
Ozark/Ouachita Draft Vegetation Management EIS

Receipt Date: October 13, 1989

Name of Respondent: Mes Headlee

Address: 1911 North Benton Avenue
Springfield, MO 65803

Comments:

- 1 Objects to aerial application of herbicides, but generally feels they are appropriate for some uses.

Response to Comments in Letter No. 530

From: Mes Headlee

Comment No.

Response

- 1 The Draft EIS evaluated aerial application of herbicides in a possible application technique. Appendix A contains an evaluation of risks associated with this method and alternatives G and H include some proposed treatments. The preferred alternative (alternative F) does not recommend any aerial application.

comments on VMDEIS for Ozark/Ouachita Mtns

11/3/89

submitted by Stephen P. Cook

Physical Sciences Dept.
Arkansas Tech University
Russellville, AR 72801

In comparison to the Vegetation Management plan for the Ozark National Forest issued in the mid-1970s, the current document is an impressive effort. Despite the presence of numerous data gaps, I feel that a concerted effort was made to estimate the health and environmental risks/ impacts of herbicide use. Yet the task is a formidable one and I feel there are significant deficiencies in the scientific analysis presented. Before I address these I shall make some general comments regarding the alternatives presented and the public response to your document process.

You don't make a good case for vegetation management (VM) in either this document or in past Forest Management Plans. For example, typically 35 % of the acres you propose using VM on are for wildlife considerations. I don't buy the featured species / wildlife openings/plots thinking of yours. Wildlife in general do best when we leave their habitat alone. If you try to improve things for one (typically game) species, this is done at the expense of other species. Nature knows best--a view which is compatible with your Alternative A--as far as wildlife and ecosystem health are concerned.

Similarly, timber considerations (TSI and site preparation) are why 40 % or so of your VM is done. If you did less clearcutting and more selection management you'd need less VM due to sunlight intensity/plant growth considerations. Granted some VM is needed in timber production, but I would prefer to see you minimize use of fire (air pollution/global climate change considerations), and eliminate herbicide use entirely (too many health risk/environmental impact uncertainties). Since manual VM methods minimize the latter and put more people to work than herbicides or fire, I favor them. Factoring in these concerns I see points in favor of Alternative B (reduces use of fire, keeps overall VM acres low), and Alternative D (no herbicides).

Regarding the process of responding to this document, the original deadline of September 7th was a joke! If you want more than superficial response (to your 850 pages or so of at times very technical material), more time is needed. Even the 60 day extension granted is not enough. In the future please provide more time between mailing the documents and deadline for receipt of comments.

Now, for some specific areas of omission/shortcomings in your analysis of risks/impacts.

1) Burning of forest vegetation as proposed has global atmospheric effects which are not mentioned. (Certainly you are aware of the uproar over burning of tropical forests and

Response to Comments in Letter No. 531

From: Stephen P. Cook

Comment No.

Response

- 1 Choice of featured species/wildlife openings process and specific silvicultural system is beyond the scope of this EIS. Discussion of these choices is presented in the National Forest Land and Resource Management Plans for each forest.
- 2 Please see the discussion of Air Quality on pages IV-116 through IV-123 of the Draft EIS noting especially the discussion on regional effects on page IV-122 (Draft EIS). Also please note that projected prescribed fire on the Ouachita/Ozark National Forests account for less than 2 percent of the smoke produced in that region.

climate change?) Carbon dioxide emissions increase the greenhouse effect. Nitrogen oxides produced lead to more acid rain. Carbon monoxide impairs the atmosphere's ability to cleanse itself. (Omission needs mention)

2) "Brown and burn" practices in areas where chlorine-containing herbicides have been used (including triclopyr and picloram from the list of those you plan to use) will lead to the production of dioxin-containing compounds. Research is needed to establish if TCDD-dioxin (toxic at ppt level!!) can be formed. (Omission needs mention)

(Note: Both picloram (see below) and triclopyr (chlorine-containing metabolites) are relatively persistent in soil)

3) Picloram persistence in soils: your "may exceed 100 days" represents quite an understatement. Blakley, et al in Teratology vol. 39 pp.237-241 (1989) state, "Picloram is highly persistent with residues detectable in the soil up to 3 yr post application and with the maintenance of toxicity toward certain susceptible crops up to 4-5 years post application."

4) Blakley et al cite the persistence of this compound as their motivation to look for subacute exposure effects. They found paternally induced fetal toxicity in mice--the effects were evident at 5 mg/kg/day Picloram dose and pronounced at 20 mg/kg/day. This recently published work suggests your NOEL of 50 mg/kg/day based on reduced fertility at 150 mg/kg/day (EPA, 1988) cited on page 3-25 Vol. II is at least 30 times too high. (Data you cite needs revision)

4) Use of Light Fuel Oil/Kerosene as carrier is indicated for two herbicides: picloram and triclopyr. Through conversation with Jack Fortin (USFS, Russellville, AR) I learned that this has been discontinued for picloram, where water soluble potassium and amine salt formulations employ water as the carrier. For triclopyr, Fortin tells me that 1:1 and 1:2 (that is parts herbicide to parts kerosene carrier) mixes are used. In light of this, I am puzzled by the maximum 3.5 pounds/acre figure for Light Fuel Oil cited in Table 4-6 vol. II. The corresponding 8.0 pounds/acre figure for triclopyr seems to indicate you considered only the light fuel oil (here, kerosene) inert ingredient component of triclopyr--around 38 %--and ignored the much more significant environmental insertion of kerosene as the carrier. Assuming a similar density for triclopyr (Garlon 4A formulation) and kerosene, I calculate a maximum 19 pounds/acre "Light Fuel Oil" application rate--some 5 1/2 times bigger than the number you have in Table 4-6!

(Data you cite needs revision, I need clarification)

5) I am concerned about light fuel oil/kerosene you are spraying in the forest for several reasons: a) there are glaring data gaps in your knowledge of its effects (your unknown systemic NOEL for kerosene and safety factor of 1000 approach may not be conservative enough--see below) b) it contains benzo-a-pyrene (and more is created when kerosene burns), c) it contains benzene.

According to the July, 1989 issue of Environmental Health Perspectives--single topic issue devoted to benzene--1) 1 out of every 200 Americans die of leukemia (high

3 We are unaware that dioxins are breakdown products of triclopyr and picloram. Presence of chlorine does not equate to dioxin formation.

4 Picloram use is being recommended only for the control of kudzu, an invasive exotic weed for which we have no adequate alternative control.

The paper by Blakley et al cited in this comment is being reviewed in the reanalysis process described on page II-26.

5 Your assessment is accurate. The values used for kerosene represent the inert component of Garlon 4 (the ester form of triclopyr as it is currently formulated for sale). The 1:2 and 1:1 cutting of this product are normally done in diesel oil. Based on the MOS values found in the analyses of diesel oil, only very low per acre rates can be tolerated (pints-quarts but not gallons). Mitigation measure number 3 (II-53 Draft EIS) requires that mineral oil (medicinal grade) be used, whenever possible, to overcome this problem.

correlation with benzene exposure), 2) concern about its presence is such that the California Dept. of Health Services recommends that remedial action be taken when benzene in water exceeds 700 parts per trillion (ppt). In light of the seriousness of this, your lack of a measured value for benzene content in kerosene you use (the 28.5 ppm figure on page 3-45 Vol. II is derived, based on assumptions; the value reflects refinery practices 15 years ago also) is glaring.

I am skeptical of your computer model results for benzene in water --table 4-11 vol. II--first since I suspect that you already significantly underestimated pounds/acre of kerosene (thus benzene) per my remarks in 4) above. Second, your model is a general one (based on adsorption controlled by organic matter in soil) and you cite no actual measured values of residues in water to correlate it for benzene. Third, your "pond" fed by a small stream is rather large, when I think of small pools in Ozark streams--how many 100 foot wide by 200 foot long by 5 foot average depth over the whole area swimming holes are there in these hills? I think this size favors dilution. If I instead assume a 20 foot wide by 100 foot long by 2 1/2 foot deep pond, that 1 % of the benzene ends up in the pond, and your other relevant assumptions per page 4-47 vol. II, the number I get exceeds the California Dept. of Health Services limit. (This admittedly crude calculation is cited only to encourage your re-appraisal of spraying anything containing benzene throughout the forest.)

6) While I realize that no use of 2,4-D in the Ozarks/Ouachita Mountains is planned, I cannot let the criticism of the Hoar et al (1986) National Cancer Institute sponsored study--which showed a sixfold increase in the risk of non-Hodgkin's lymphoma among Kansas farmers using 2,4-D--see page 3-37 Vol. II--pass unchallenged. The suggestion that the study "relies on the subject's and the next of kin's recall of exposure status" is not the case. Records of agricultural chemical purchases were obtained. The authors point out that were such charges true, correlations they found would have been weakened. In reacting to this study, Charles Benbrook, Executive Director of the Board on Agriculture at the National Academy of Sciences, commented, "For the first time there is clear and rather unequivocal evidence that the environmental exposure to pesticides at low levels causes cancer in man..I think the emergence of the new epidemiological data is cause for very serious concern." Given this finding, I urge you to suspend use of 2,4,-D wherever it is still used in region 8.

Thank you for the chance to comment on the above. I hope to receive clarification as regards the suspected mistakes in the VMDEIS I've pointed out. I hope to see my other concerns adequately addressed in the final version of this document.

Sincerely,

Stephen P. Cook
Stephen P. Cook

6 General consensus on the Hoar study is presented in the Risk Assessment. It provides an excellent starting point for additional research, but being chiefly anecdotal, is not in itself conclusive. He are not proposing any use of 2,4-D in any event.

*1 We must have better forest management.
I believe Alternative A will give the
best service to all communities*

Please save our old growth forests, too.

*Ruth Lovejoy
P.O. Box 40
Pine Bluff, AR
71965*

Response to Comments in Letter No. 532

From: Ruth Lovejoy

Comment No.

Response

1 Your preference for alternative A was included in content analysis of all comments received. Note that alternative A is the "no action" or no management alternative. One of its effects is to prevent achievement of many Forest Land and Resource Management Plan objectives.

HCR 72 Box 92
 Jasper, AR 72641
 November 3, 1989

USDA Forest Service
 1720 Peachtree Rd, N.W.
 Atlanta, GA 30367

Dear Sirs:

As a resident in close proximity to the Ozark National Forest, I feel your draft EIS on Vegetation Management didn't completely consider the risks of herbicide use. Our nation is spending a lot of money to counteract the effects of DDT, dioxin etc because not enough attention was paid many years ago to their possible hazards.

Not only is it a realistic fear to be afraid of contamination of soil, wildlife, plants and underground water systems, from which all rural water comes from for people's use, but it is against public scruples to poison out trees and other vegetation for economic motives.

As a citizen of this country, I was under the impression the National Forest System was managing forests to prevent greedy private companies from razing hardwoods for their own profit. After many years of living here, I am convinced our government # is after the same thing. Why else is acre upon acre of hardwoods being poisoned and leaving a ghostly wasteland to make room for

Response to Comments in Letter No. 533

From: Susanne Long

Comment No.

Response

1 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, fire is prescribed. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans. Importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

Potential effects on water are discussed in appendix C and in part G of chapter IV. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

2 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

3 The issue of forest type conversion is outside the scope of this document. It is discussed in the Forest Land and Resource Management Plan of each national forest.

(3)
 peers alienating the people who live in and around the National Forest.

You now have the opportunity to turn this around & have beautiful acres of forest properly managed to be an everpresent testimonial to our country's beauty without losing economic advantage. You are hired by the nation's citizens and have a responsibility to them directly, so go back to the drawing board and change your attitude towards trees and animals. If you don't appreciate their innate beauty and dignity, you're in the wrong profession. They are not expendable economic commodities!

In closing, no herbicides should be used. You have not even considered all the medical research or public history against their hazards. Burn should be used as little as possible, as it can easily get out of control. Manual management with as little disturbance to soil should be used. The National Forest's attitude should not consider forests to be solely economic money generators, but rather a valuable resource with a moral charge to healthily maintain the native habitat and composition. You should think of yourselves as public servants, directly accountable to U.S. citizens and their future descendants.
 Thank you!
 Susanne Long

5 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

6 A site-specific burning plan is required for each prescribed fire (Draft EIS pages II-46 and II-47). Each such plan sets constraints on weather and fuel conditions and for resource coordination so that the prescribed fire will be safe and effective (Draft EIS page IV-123) and pose the least possible risk to the environment. Given such planning, and the fact that the preferred alternative does not allow severe, high-intensity prescribed fires (Draft EIS pages II-11 and II-46 to II-51), mortality of wildlife and plant regrowth is minimal (Draft EIS pages IV-38 to IV-40 and IV-75).

Dear Sir:

I would like to comment on the WMEIS for the Ouachita National Forest.

I see that herbicides are to be used extensively in suppressing the hardwoods. I urge you to use fire or manual methods if you must suppress the hardwoods.

Most herbicides have not been thoroughly tested for long term health effects on people and animals. If a herbicide is not on the EPA list of banned chemicals the probably means it has not been tested.

Recent research has found that chemicals are retained in the soil many years longer than first thought. Weedy, these chemicals in the soil could have lasting effects of the community for many years.

These chemicals can leach into the water supply even if administered directly in the hardwoods. These chemicals can be very harmful to people susceptible to these chemicals. That is people with heart or lung problems, children, and the elderly.

I urge you to select N.C.W.A. modified alternative D, using less vegetation management and using fire and manual methods.

Thabo Cliff Rushing 550 P.O. Box 4144, Milltown, TX
76065

Response to Comments in Letter No. 534

From: Cliff Rushing

Comment No.

Response

- 1 The Draft EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Ozark and Ouachita Mountains methods other than herbicides are projected to be used on 75 percent of the total acres treated in the preferred alternative F in the Draft EIS (page II-12). The EIS simply shows that the preferred alternative, with its mitigations and inherent constraints, would improve treatment effectiveness with minimal adverse impacts. Furthermore, the determination of the most appropriate tool for a project must be made at the project level based on a site-specific analysis. A reasonable range of alternative methods, including the use of methods which do not involve herbicides, will be examined and evaluated, and IPM principles must be incorporated (Draft EIS pages II-38-41).
- 2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search. Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 3 We are unaware of the specific research to which you refer. We would be glad to consider new scientific data.
- 4 Potential effects on water are discussed in appendix C and in part G of chapter IV. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

5 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Nov. 3, 1989

USDA Forest Service,

I am writing to comment on vegetation management in the Draft/Quackita Mountains. As an expectant mother and resident of the Buffalo Management Area I am concerned with several aspects of the Draft Environmental Impact Statement. In particular I oppose the proposed use of herbicides. Herbicide use on public land involuntarily exposes people, animals, water, and endangered plant species to the risks of herbicide use. Chemical companies that make herbicides have warnings on the labels which read "use at your own risk". VMDEIS makes unjustified assumptions about "acceptable risk" involved with herbicide use.

Data gaps need to be filled concerning risk involving neurological and immunological effects, tumorst cancer. Bioaccumulation of herbicides is insufficiently assessed since studies used to project long-term bioaccumulation were only 4 day

Response to Comments in Letter No. 535

From: Tara Edwards

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking we identified the lack of data and explained how the Risk Assessment dealt with the gap.
- 3 We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject: no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects. The definition of headache = neurotoxic effect is too narrow a focus of this symptom.
We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

elimination rate studies. Studies in Sweden indicate that herbicides are much more persistent in the food chain than previously believed.

The lack of water quality standards and the lack of scientific data that the VMDEIS has on the adverse impacts of burning herbicide treated vegetation appear to assume no risk even though no studies have been done to determine all possible effects. It is my perception that the risk is unacceptably high and feel justified that in recommending that our public lands not be managed with herbicides.

I am opposed to intensive mechanical site preparation since the negative effects on soil & water quality are well known.

Therefore I support, by reference, the NEWA modified alternative D with reduced total acres of vegetative management.

Thank you for a chance to comment.

Tara Edwards

4 Discussion of fire and herbicide treated material is presented in the Risk Assessment (page 4-61) and in the Draft EIS (pages IV-23 through IV-25).

5 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.

6 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Nov 4, 1989 Comment on Ozark N.F. D.E.I.S.

- 1 The U.S.E.S. fails to recognize that herbicides spread through the ecosystem and may effect many species. Industry and government claimed that DDT was harmless for 25 years or more. Now it is accepted fact that DDT caused serious damage to birds as it moved up the food chain. DDT is now found in Antarctica (in penguins) where it has never been applied. People are at the top of the food chain where these pesticides & herbicides accumulate. People definitely eat deer, turkey and squirrels from Ozark National Forest. My family is personally concerned about water pollution. We drink from springs and a well which are within 1/2 mile of an area scheduled for 2-4 D application.
- 2 The government claimed agent orange was safe for use on around troops in Vietnam and those G.I.s are still suffering side affects and it has taken court action to change the governments position. This is a chance for the U.S.E.S. to regain some credibility by stopping the use of all herbicides. Short term gain is not

Response to Comments in Letter No. 536

From: Steve Keltner

Comment No.

Response

- 1 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS - pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 3 Neither 2,4-D nor Agent Orange are evaluated in this EIS.

②

worth the risk of serious & irreparable ecological damage.

If the Forest Service would move away from strategies of even-age management and adopt selective cutting and continuous yield management, then herbicides would not be necessary. There are private landowners and loggers in this area which do selective cutting and manage their land for continuous yield. The advantages of this system are many. The ugly, destructive and erosion causing clear cuts are not necessary. The forest does not lose its essential character. Disruption and waste are minimal. Within a mile of our farm I can show you 100 year old beech trees which were cut down in a clear cut and left to rot. This is a crime against nature and I feel a violation of the U.S.F.S. mandate for multiple use forestry. When 100 year old trees are wasted for future timber harvests its difficult to accept the U.S.F.S. as a credible conservator of the public land. There is research available to demonstrate the economic and

4

4

The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).

Potential effects on ground water are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.

③ ecological advantages of selection harvesting. There are demonstration forests available to show this type of management. The work of Leon Menkier is instructive although I'm told the U.S.F.S. obstructed & covered up his work as heresy. It's time for a change! For once the Forest Service should do what's right rather than what is cheapest or more expedient. If it cost more to do selection harvesting then so be it, let the timber cost what it costs. Why should the taxpayers subsidize massive waste & ecological damage.

Please recognize that I'm not an idealistic, theoretical ecologist. My drinking water is directly threatened by the actions of the Forest Service. Where does that fit into your economic equation? We support alternative D.

Sincerely

Steve Felton

landowner Newton County Ark.

5 Your preference for alternative D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

SUGGESTIONS

for

Substantive Response to

U.S.F.S. VMDEIS

I am opposed to any future herbicide use by the USFS for vegetation management because:

- 1) of extensive "data gaps" in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, and III-66 & 67, vol 1.
- 2) VMDEIS makes unjustified assumptions about "acceptable risk" involved with herbicide use. Before one can determine if a risk is acceptable it is necessary to ask the question, "acceptable by whom?" The use of herbicides poses an unacceptable risk to me through possible ground water contamination, adversely affecting my quality of life.
- 3) of significant need for further research to fill these data gaps as stated on page IV-147, vol 1.
- 4) VMDEIS makes arbitrary use of quantitative risk assessment without an adequate data base, which was lacking for the majority of herbicides proposed for use.
- 5) no qualitative risk assessment was performed to determine the accuracy and verifiability of data used to fill large data gaps. Many times no risk was assumed even though no studies had been done to determine all possible effects.
- 6) herbicide use on public land involuntarily exposes those extremely sensitive people which exhibit a range of reactions from lower-than-normal "no observed effects" levels to many possible toxicity reactions thus greatly endangering their lives, and exposing them to unacceptable risk.
- 7) VMDEIS fails to assess final responsibility for any unforeseen adverse environmental impacts. The chemical companies that make the herbicides have warnings on the labels which read "use at your own risk". USFS application contracts place the responsibility for any spills on the contractor. Finally, we the people will bear the ultimate responsibility for these unforeseen impacts if we allow herbicide use to continue.
- 8) there are huge data gaps in the research information used for developing the risk assessment portion of VMDEIS and the scientific uncertainty in modeling used to fill these gaps was not discussed in the document.
- 9) It is my perception that the risk is unacceptably high and feel justified in recommending that our public lands not be managed in this way.

Response to Comments in Letter No. 537

From: Joan Murphy

Comment No.

Response

- 1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 2 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.
- See our response to comments in Letter No. 3, Comment No. 2 regarding your concerns about groundwater.
- 3 We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.
- 4 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking we identified the lack of data and explained how the Risk Assessment dealt with the gap.
- 5 We are unclear as to the purpose or meaning of a "...qualitative risk assessment..." 40 CFR 1502.22 requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on quality and relevance to the process.
The criterion proposed "...to determine all possible effects..." is at variance with 40 CFR 1502.2(b) which states: "Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues..." and also is inconsistent with 40 CFR 1502.22 which deals only with reasonably foreseeable significant adverse effects on the human environment.

- 6 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.
- 7 In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.
- 8 We agree.
- 9 Parametric statistics do not apply to data which is estimated using analogy - a non-statistical technique firmly based in science and generally accepted by the scientific communities.
- 10 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

- 10) VIDEITS did not fully analyze all potential impacts and risks to water quality in geological regions containing karst areas, especially where line sinks have created areas of rapid internal drainage during heavy runoff.
- 11) there are no water quality standards for most herbicides planned to be used since EPA and individual states have failed to set any standards for them. USFS claims to meet the strictest drinking water standards set by EPA of .100 ppm for 2,4-D the only one they have information on. The rest are assumed safe if amounts don't exceed those for 2,4-D.
- 12) due to a lack of scientific data, VIDEITS does not adequately address the adverse impacts of burning herbicide treated vegetation. It says nothing of possible dioxins, difurans, chlorine gas, hydrochloric acid, cyanide, phosgene gas, or chlorine dioxide being contained in the smoke from prescribed burnings in these same areas. I recommend that there be no prescribed burnings in any stands treated in the past with 2,4-D which contained a small amount of TCDD, the deadliest form of dioxin and poison known to mankind. These dioxin breakdown products are extremely long lived and could be spread from the site in the smoke since they are not destroyed at low temperatures.
- 13) Quantitative risk analysis is a relatively new tool and does not have a proven track record for accuracy when predicting results. Such a risk analysis was used in California but failed to predict the effects of severe poisoning from eating watermelons sprayed with a pesticide at 1/5 the levels predicted to cause any effects.
- 14) worst case analyses are over conservative in their estimates for extreme spills. What if a helicopter crashed into a refill tanker? What if vehicle carrying herbicides crashed and spilled its entire contents? Spills onto workers this last April on the Buffalo District exceeded the project's worst case scenario thus proving that even the finest mitigation measures work best on paper.
- 15) LC50 and LD50 are inadequate alone to determine risk to humans and wildlife since they take into account only acute toxicity. Long-term, low level toxicity studies have not been done to predict the cumulative, synergistic long-term effects.
- 16) there are no studies of the synergistic and cumulative effects using full formulations of herbicides and their secret inert ingredients. This is a serious oversight since one of the inerts in 2,4-D was dioxin.
- 17) the "no observed effects levels" are too high, and are based on modeling and guesswork from rabbit and rat studies in order to estimate effects upon humans and are completely unverifiable.
- 18) the risk assessment does not consider whether some of the herbicides may be tumor promoters or enhancers, or initiators of cancer in combination with other compounds that could cause cancer.
- 19) neurological and immunological data is unavailable for all herbicides listed since EPA does not require these at the present. These impacts are not considered. Hexazinone applicators have frequently complained of headaches from breathing vapors all day, a situation which indicates a need for these studies.
- 10) Potential effects on groundwater are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.
- 11) Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:
(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.
- Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing" our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.
- 12) While recognizing the commenter's concern about the possible effects of past practices with respect to current prescribed burning risk, we were unable to find data which supports the position offered. Available information, presented in appendix A, pages 5-31 and 5-32, shows margins of safety of 150 or greater when compared to toxicological reference standards. Please also review the general and prescribed fire reviews presented on pages IV-116 through IV-124 of the Draft EIS. The EIS team will be glad to review any scientific information not previously reviewed.
- 13) Quantitative risk assessment has been in general use since the late 1970's. While not perfect, it has an excellent track record. The case referred to was one of an unpredicted synergism which was overlooked in the analysis. Reasonably foreseeable synergisms with potential to cause significant effects have been considered in this EIS (40 CFR 1502).
- 14) The Council on Environmental Quality Regulations, 40 CFR 1502.22 require that "reasonably foreseeable" significant adverse impacts be evaluated in order to make a reasoned choice among alternatives, management requirements, and mitigation measures in part E of chapter II constrain the magnitude of reasonably foreseeable accidents (see especially number 21 on page II-58 of the Draft EIS). We used water-based accident scenarios rather than terrestrial because the potential for significant environmental harm is higher. The terrestrial accidents you suggest are possible, but pose less environmental threat than the accidents we evaluated.

- 15 LD₅₀ and LC₅₀ are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.
- 16 Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not secret ingredients. Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.
- 17 MOEL's are evaluation of the highest dose of a chemical administered on a subchronic or chronic basis which causes no observable effect in test animals. It is scientific data not an arbitrary point. Thus, it is neither too high nor is it too low. The lowest MOEL among all tested species is taken to be an approximation of the human NOEL, and then a safety factor of 10 is used to make a more conservative (risk reducing) estimate. For further information see the discussion of Margin of Safety on pages 5-1 through 5-3 of the risk assessment (appendix A) and the discussion beginning with "Hazard Identification" on page IV-4 and ending with the discussion of "cancer potency" on page IV-8 of the Draft EIS.
- 18 Based on data presented in the Risk Assessment this concern was not felt to pose a reasonably foreseeable potential for causing significant effects. While continuing to monitor the scientific literature we have not yet no evidence to suggest that there is a legitimate concern in this area.
- 19 We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects.

- 20) bioaccumulation of herbicides is insufficiently assessed since studies used to project long-term bioaccumulation were only 4 day elimination rate studies. Studies in Sweden have found herbicide residue levels up to 6 ppm in liver and kidney tissues of 250 different wildlife species. This indicates that herbicides are much more persistent in the food chain than previously believed, and it increases the possibility for bioaccumulation in humans who eat those species of wildlife.
- 21) of unmentioned possible adverse effects upon biodiversity on National Forest land since herbicides disrupt the natural ecological processes through reduction in biomass and composition, and abundance of ground cover to protect soil from erosion in recently cutover areas.
- 22) herbicide use does not contribute to the local economies as well as manual methods of vegetation management. Manual methods would result in the highest rate of employment in an area with one of the highest rates of unemployment in the south. This would mean increased local returns to the economies: over \$40 more per acre than with herbicide use.
- 23) large data gaps exist in research regarding the breakdown products and metabolites for full formulation of herbicides and their inert ingredients.
- 24) I am further opposed to use of any vegetation management methods on threatened, endangered or sensitive (TES) plant and wildlife habitat because, if left alone, these areas will have a more stable environment with fewer human disturbances and more natural disturbances taking over to which TES species are already adapted.
- 25) I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice on public lands.
- 26) VADZIS fails to consider a full range of alternatives as per NEPA when it did not include an integrated pest management alternative such as presented by Norma Greir in Region 6 emphasizing prevention for need of VII and allowing natural processes to work, employing least invasive and least toxic methods, and using follow-up monitoring and evaluation to help fill in data gaps. It failed to consider a full range of alternatives when it did not include an alternative with reduced number total acres other than alternative A. These total acres to be treated are tiered to LIPP's which are currently under appeal and revision concerning overreliance on even aged management techniques which necessarily involve more site prep and TSI work.

Therefore I support, by reference, the RCPA modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.

>>>> Finally, I do not believe the risks are acceptable for herbicide use and do not believe that public lands should be managed with them. Thank you for this opportunity to comment.

Herbicide use produces long term non-reversible damage to our planet. I object to herbicide use. Joan Murphy D11 F LR At 72205

20

The liver is the organ in the body which "detoxifies" blood. While reporting the presence of up to 6 ppm of herbicides in the liver, it was never made clear if this was transient removal of materials recently ingested/digested/circulated or if this was storage material. Since we have found no evidence of accumulation of these herbicides in our literature review, we find no evidence to support commenter's contention that presence in a filter (the liver) equates to storage and accumulation in that location.

21

See our response to comments in Letter No. 42, Comment No. 2.

22

See our response to comments in Letter No. 23, Comment No. 2 regarding employment. We did not disclose any data which would support increased returns of \$40 per acre for manual treatments. In fact, the limited data we supplied on pages IV-127 through IV-130 of the Draft EIS suggest a figure much lower than \$40. Additionally, if effectiveness of a treatment is considered the comparison between manual and herbicide treatments becomes even closer. There is also the chance that labor may be provided by a contractor outside the community or even the State. Measuring the direct input to local economies is much more difficult than supposed in your comment. This effect is one which was determined to be outside the scope of this EIS.

23

We agree. See No. 7 on page IV-9 of the Draft EIS where we identify this as a data gap.

24

Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.

25

Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.

26

Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.

Alternatives A and B reduce acreage and alternative H increases acreage from Forest Land and Resource Management Planning levels. Any revisions or changes in Plan direction can easily be incorporated into any preferred alternative and acreage can be adjusted if necessary. We evaluated programs as they existed at the time of our analysis, not as they might be following some uncertain length of time, but we retained flexibility to adjust. Discussions of even-aged management is beyond the scope of this EIS.

November 4, 1989
 P.O. Box 24
 Pettigrew, AR 72752

Vegetation Management EIS
 1720 Peachtree Rd, NW
 Atlanta, Georgia 30367-9102

Dear Sirs:

This is in response to the EIS for
 Vegetation Management on National
 Forest of the Ozark / Ouachita Mountains
 area.

After reviewing a summary of the
 DEIS, we think the only acceptable
 alternatives are A & D as ~~the~~ these
 are the ones that do not use
 herbicides.

We are opposed to the use of
 herbicides on our public lands. A
 growing number of individual
 in today's society (our son being
 one such person) are showing to
 adverse reactions to exposure to
 these chemicals. We do not believe
 that the data that is available

Response to Comments in Letter No. 538

From: Gavla & Jim Frey

Comment No.

Response

1 Your preference for alternatives A or D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2

Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.

Concerning "acceptable risk" to exposure to these chemicals is conclusive. The "fact" cannot be trusted. "Acceptable risk" is simply no longer acceptable!

We appreciate the efforts that are being made to study the effect of these herbicides on persons health and on ~~the~~ possible water contamination. However, the data seems insufficient and ~~that~~ there are so get still too many ~~basic~~ unanswered questions concerning the ~~of~~ harmful effects of herbicide usage.

In the final analysis it is the people who use these herbicides (workers) and ^{themselves} people who use the lands that have been used on that must bear the responsibility for the detrimental effect of this usage.

We urge you to consider your responsibility to the people of this

3

Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

4

Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

area and to the future generations and most importantly to the forest and the wildlife that it supports.

We believe that mechanical and fire methods should be used only in small amounts and always taking into consideration any effects this would have on threatened or endangered plant and wildlife habitat. These species need a stable environment without human disturbances.

Providing this is as much a responsibility of the United States Forest Service as it is timber management.

We appreciate this opportunity to express our views. In closing, we do not support the use of herbicides on public lands and we believe that prescriptive management is mismanagement.

Sincerely,
 Kayla Gray & Jim Frey

5

Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

6

Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.

I am against controlled forest and believe all plants should be allowed to grow freely. I am for alternative A.

Sincerely,
Merna Clarke

1

Response to Comments in Letter No. 539

From: Merna Clarke

Comment No.

Response

1 Your preference for alternative A was included in content analysis of all comments received.

540

To whom it may concern.

1 I'm Against Herbicides.

I PREFER ALTERNATIVE A.

Mr. Edwin Barker

Rt 9 - Box 161 A

Mana Ark

71953

Response to Comments in Letter No. 540

From: Elsie Barker

Comment No.

Response

1 Your opposition to herbicide use and preference for alternative A were included in content analysis of all comments received.

Regarding the use of Herbicides
on Quachita / Ozark Nat. Forest
Quachita Forest Landels,

NOV 4-89

- 1 I am very, very much against using herbicides on our forest, on any where for that matter. Poison is poison no matter how they twist and turn it and if we can't go back to more natural practices we will die to regret it one day. I am not a scientist or some one learned so I can not explain it well but I don't believe our earth can absorb endless doses of herbicides with spewing it back at us soon. I would like to see people continue to enjoy our forest, naturally, and also responsible harvesting with no clear cutting.
- 2

Fred & Anna Gerdes
830 Birds Loop
Bismarck, ND 58106

Sincerely Anna Gerdes

Response to Comments in Letter No. 541

From: Fred & Anna Gerdes

Comment No.	Response
1	<p>Your opposition to herbicide use was included in content analysis of all comments received.</p> <p>An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.</p> <p>Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.</p>
2	<p>The issue of clearcutting is not within the scope of this EIS. It is discussed in Forest Land and Resource Management Plans.</p>

JOHN F. BARAN
 104 Forrest Hill Road
 Hot Springs, Arkansas 71901

11/6/89

To Whom It May Concern:

- 1 I would like to express my opposition to any use of herbicides in our national forests. This poses a long range risk to the environment. The use of herbicides is obviously for the specific purpose of killing broad leaf vegetation, eg. hard-woods.
 - 2 I believe that subsidizing the pulp wood industry will only prolong the day that the tons of paper fiber will be ~~an~~ a product to re-cycle. The major portion of solid waste that is disposed in our landfills is some form of paper product.
 - 3 Another comment about killing the broad leaves, is the elimination of all undergrowth in a pine plantation. This surely most destroy the ecological balance of all living organisms that depend on this vegetation for sustenance.
- President Bush, during his campaign, coined a good phrase for the U.S.A. READ MY LIPS: NO CHEMICAL DEPENDENCY!

Sincerely

John F. Baran

Response to Comments in Letter No. 542

From: John F. Baran

Comment No.

Response

- 1 Potential short- and long-term risks to the environment from herbicide use are discussed in a number of sections of the Draft EIS (most notably appendices A and C and parts B, C, and D of chapter IV). The purpose for their use is outlined in chapter I, and is much the same as for using other methods.
 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Page II-12 contains a table which displays 13 program areas where vegetation management is done. Fiber production is only one of many objectives in these programs.
- 3 The Draft EIS discusses species composition, succession, and effects on habitat in parts C and D of chapter IV.
 In this EIS, we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, page II-38-39) recognizes the requirement for managing to maintain biological diversity.

11/2/89

Dear Sirs:

The use of herbicide on National Forest land is a delicate & controversial issue. Admittedly some good may come to the pine plantations that have been treated for hardwood control, with Uelpar or related compounds, but let's look at the costs:

- 1) Use of chemicals on an organic crop & substrate; Suppose there is an effect (observable & recorded), that changes occur which substantially affect soil microbes & consequently soil fertility, stability, percolation & eventually the watershed.
- 2) Effects on wildlife through massive habitat disruption; Hardwoods constitute some 80% of the canopy store & supply a large portion of wildlife food & shelter. By eliminating productivity in large areas (10 acres) animals dependent upon deciduous trees must move to survive. One oak tree may provide the essentials for a myriad of forest animals (mice, toads, insects, weas, squirrels, owls, etc.). The entire pyramid of wildlife exists inter-dependently. Done we affect our natural ecosystem so adversely.
- 3) Manpower costs; It has been stated that a thinned area requires more description than a clearcut. I just don't see how that could be true.
- 4) Sure a thinned area is intended every 12-20 years.

Response to Comments in Letter No. 543

From: H. B. Laird, Jr.

Comment No.

Response

- 1 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.
- 2 The consensus among scientists that have studied the topic is that use of herbicides at our low rates (Draft EIS, page II-53) does not yield high enough concentrations to adversely affect soil microflora (appendix C, page C-10). These herbicides are not general biocides but are formulated specifically to affect the more complex metabolic processes of higher plants that are absent in microflora (Draft EIS page IV-95). The major threat to soil productivity is not toxicity to soil organisms, which recover rapidly from disturbance, but loss of organic matter and nutrients (Draft EIS, pages IV-85-97).
- 3 This question, while very valid, is outside the scope of this EIS and is addressed in individual Forest Land and Resource Management Plans. However, our mitigation measures to require 90 percent selective herbicide treatments will enable more opportunities for mixed stands, and in hardwood stands desirable hardwood seedlings such as oaks can be effectively released from competing undesirables that readily resprout when cut manually.
- 4 As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

11 / 2 / 89

3 cont) Forest Service personnel check it, mark it, & as Arkansas family cuts it. A clear cut is dozed, ripped, burnt, planted, sprayed with herbicide once or twice or more & then after the first 5 years of activity it will need to be given additional treatments (spraying or burning) at 15 & 40 years to maintain stand quality. Why hire green cards to spray it when Arknes are begging you to cut it.

4) Futures Markets: We have some of the tallest hardwoods in the USA. Beaulieu Strang. These grow in competition with each other. People are burning pine slash in the west. I believe that our hardwood in these mountains will be worth more in 10 years than all the plantation pines that grow all over the country. They already have to add hardwood chips to make quality paper.

5 If I have a choice between toilet paper & cabinet lumber for my kids I'll wipe with a wet cloth & teach my kids how to appreciate abundant Natural beauty & how to manage it without poisons & chemicals & hope that they build for the future. Thanks for your concern.

Harry Smith

5 This EIS discloses the effects of treatment methods, not value analysis of species. There are many factors such as species, form, grade, site capabilities market condition, market condition, etc. that determine value of a species. This question will vary with local conditions and is more appropriately addressed in formulation of Forest Land and Resource Management Plans.

November 6, 1989

Mr. Steve McCorquodale
VMDEIS Comments
USDA Forest Service
1720 Peachtree Road N.W.
Atlanta, GA 30367

Dear Mr. McCorquodale:

Following are my comments and concerns about the Vegetation Management Draft EIS. As Chairman of the Defenders of the Ouachita Forest and writer of the comments submitted by this group, I would like to incorporate all comments on behalf of Defenders of the Ouachita Forest as my own personal comments also.

I would like to reiterate several issues that concern me most as a private citizen.

1. HERBICIDES - In light of my own personal history as an avid organic gardener and long-time student of Robert Rodale, I find the use of herbicides (or any form of pesticides) on public lands (not to mention private lands) completely unacceptable. I feel even more strongly after doing research on the specific chemicals proposed for use in the Ouachitas/Ozarks that their use is totally unjustified. The U.S. Forest Service has an obligation to protect our forest resources--plants, wildlife, recreational values and even timber production from those who would exploit them for their own personal gain. The practice of introducing questionable chemicals into our environment must be stopped and alternative methods of any absolutely necessary vegetation control should be explored and used.

2 The question of untested "inert" ingredients which could be more toxic than the main ingredient, in itself, is enough justification for eliminating the use of chemicals in the forest. Questions of Cumulative and Synergistic effects cannot be adequately tested or addressed without full disclosure of the ingredients in a pesticide (including inerts).

3 Reliance on the EPA, an under-funded, crippled government agency to provide the necessary compliance with federal laws on pesticide registration is ludicrous in my estimation.

4 2. PRESCRIBED BURNS AND MECHANICAL METHODS OF VEGETATION CONTROL These methods should be used only on lowest intensity basis.

Response to Comments in Letter No. 544

From: Sherry Balkenhol

Comment No.	Response
1	<p>Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.</p> <p>Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.</p> <p>Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on page II-38 through II-59 are designed to cause the least environmental impact.</p>
2	<p>Please see table 3-8 page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...." Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.</p>
3	<p>An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only a supplement to this literature search.</p>
4	<p>Intensive mechanical methods such as heavy disking and root raking are not permitted. Mitigation measures to prevent adverse impacts to soil and water are included on pages II-51 and II-52 of the Draft EIS. Data presented in the EIS indicates that using moderate to low intensity tools does not cause appreciable soil erosion or water quality degradation. It is possible that some wildlife will be temporarily disturbed but population recovery is normally very rapid as is disclosed in the EIS.</p>

November 6, 1989
 Mr. Steve McCorquodale
 Page 2

3. RECYCLED PAPER - I feel that the Vegetation Management Draft EIS as well as any other publications or papers generated by the U.S. Forest Service should be printed on recycled paper. This would definitely be a gesture of good will by the Forest Service and would perhaps serve to show that the subsidization of the timber industry causes virgin paper to be less expensive. If the budget of the Forest Service is reduced by having to purchase recycled paper, perhaps that subsidization would be reduced and the recycling of paper products would be encouraged.

In conclusion, the environmental consequences of proposed methods of vegetation management in the DEIS will definitely be carefully scrutinized by those of us who are concerned about the management of the Ouachitas/Ozarks. I certainly hope that the final EIS addresses our concerns more fully.

Please send me a copy of the final EIS on Vegetation Management for the Ozark/Ouachitas.

Sincerely,



Sherry Balkenhol
 Rt. 9, Box 95
 Mena, AR 71953

A site-specific burning plan is required for each prescribed fire (Draft EIS pages II-46 and II-47). Each such plan sets constraints on weather and fuel conditions and for resource coordination so that the prescribed fire will be safe and effective (Draft EIS page IV-123) and pose the least possible risk to the environment. Given such planning, and the fact that the preferred alternative does not allow severe, high-intensity prescribed fires (Draft EIS pages II-11 and II-46 to II-51), mortality of wildlife and plant regrowth is minimal (Draft EIS pages IV-38 to IV-40 and IV-75).

5 Comment noted.

November 6, 1989

Ouachita/Ozark VMDEIS
 USDA Forest Service
 1720 Peachtree Road, N.W.
 Atlanta, GA. 30367

Dear Sirs:

We are inholders in the Ouachita National Forest and wish to submit the following comments on the Vegetation Management Draft Environmental Impact Statement for the Ozark/Ouachita National Forests.

I oppose the future use of herbicides by the U.S. Forest Service for the following reasons.

1. There are extensive data gaps in the information used to calculate human risk and wildlife risk assessments as stated on pages IV-8 & 9, and II-66 & 67, Volume I. In light of these gaps, use of the herbicides constitutes a massive, uncontrolled experiment on human beings and wildlife.
2. There is a total lack of research on "full immunological" effects on humans of the herbicides proposed. There is insufficient research regarding the inert ingredients and possible contaminants and their possible break down byproducts and metabolites.
3. The VMDEIS does not adequately address the results of burning of herbicide treated vegetation.
4. The VMDEIS fails to properly assess the impacts upon diversity, water quality, water quantity, biodiversity, and threatened and endangered species.
5. Not only do I find that the risks to humans and wildlife associated with herbicide use unacceptable, but I question the ability of the Forest Service to deal adequately with protecting the safety of employees using these chemicals.
6. The separation of the Vegetation management issue, which is inseparable from the Clearcutting issue, into a separate document from the Management Plan for the Ouachita National Forest does not allow any real comparison of the various proposed alternative management practices for the Forest. The whole picture of the comparison of various management practices including the effect

Response to Comments in Letter No. 545

From: Mary Rawlins & Ruth Busby

Comment No.	Response
1	<p>Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.</p>
2	<p>We agree that it would be advantageous to have immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in this area of research. For the sake of clarity, headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects.</p>
3	<p>Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.</p>
4	<p>Appendix A (page 4-61) and Draft EIS chapter IV (pages IV-23 through IV-25) contain discussions regarding burning treated vegetation.</p> <p>Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.</p>

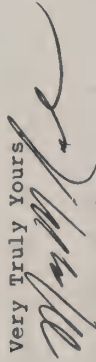
of the use and effects of use of Herbicides and other vegetative management practices is never thoroughly considered in either the Management Plan or the VMDEIS because the Vegetation Management Draft Environmental Impact Statement is separated from the Forest Management Plan.

I support a modified Alternative D as proposed by Newton County Wildlife Association, Ouchita Watch League, Northwest Arkansas Environmental Guardianship, including long-term study the eliminate the need for vegetation management through more ecologically sound timber practices including:

1. Reduced vegetative manipulation to 75,000 acres per year in light of revisions and amendments to current LRMP's.
2. Only low intensity prescribed burns on acreage which have not had herbicides applied in the last 10 years.
3. No intervention in habitats which might support any rare and endangered plant or species until long-term studies indicate impacts appropriate to the habitat.
4. Manual methods of treatment with some low intensity mechanical wildlife treatments and site pres., using mechanical site prep methods which expose no more than 8% of soil on a site.
5. No firewood permits for herbicide treated wood.
6. Increased use of uneven aged timber management to reduce the need for vegetation management.
7. Maintenance of mixed forest condition with a mix of species in various sizes, ages and numbers.
8. Use of biological treatment which do not include domestic animals.

Please count this comment as 2 persons favoring "Flexible Forestry" VMDEIS Modified Option D. Thank you for this opportunity to comment.

Very Truly Yours



Ruth Busby
 Mary M. Rawlins
 Ruth Busby
 500 Mena Street
 Mena, Arkansas 71953

5 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

6 See our response to letter 523, comment 6.

7 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

8 In the Final EIS, we have improved mitigation measures to prevent sale of firewood from areas where herbicides have been injected.

November 6, 1989
 Eugene Culver
 Lynn Culver
 Route 6 Box BC56A
 Mena, Arkansas 71953

USDA Forest Service
 1720 Peachtree Road., N. W.
 Atlanta, Georgia 30367

Dear Forest Service,

The following are my comments concerning the Vegetation Management EDIS and Appendices for the Ouachita and Ozark Forests.

1. Your separation of the preferred plan from the vegetation management analysis is erroneous, since it is the plan itself which necessitates a gross overmanagement of the forest resource with unacceptably high use of both herbicides and prescribed fire.

2. The term controlled fire is an oxymoron. The only thing about fire you can reasonably control is the area which is burned. Within that area, flame and soil temperatures vary radically, uncontrollably, and unpredictably. Hot fires often move faster, leaving fuel unburned and vegetation still green, while a cool fire, moving slowly, will often burn more thoroughly and produce higher soil temperatures. The same piece of land never burns the same way twice. Yesterday the Mena district let a fire get away from it and burned a farmer's pasture. Air quality standards are frequently violated by burning here. I have observed the loss of soil nutrients and humus due to fire and I find your conclusion of page B15 that it does not impair soil quality to be utterly incongruent with the studies you cited. Burning is a crude and clumsy assault on species diversity. A way for pine farmers to get rid of hardwoods, not a tool for FOREST management. Further, burning in a mixed type forest can leave hardwoods with open wounds and fire scars, which invite disease, viruses and parasitic growths, all to the detriment of the general health of the forest eco-system.

3. At this time your dose estimates are too close to the 1/5 LD50 for many species. There is no justification for subjecting numerous fish, birds, amphibians, reptiles and mammals to moderate risk from herbicides. Not to mention the plant kingdom. Rare plants unknown to science are being discovered in the Ouachitas, and more will be found unless herbicides wipe them out. You should be thinking in terms of vegetation management which does not mount a general assault on species diversity.

Response to Comments in Letter No. 546

From: Eugene & Lynn Culver

Comment No.

Response

1 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Generally, this process concludes with an amendment to the Plan. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS (40 CFR 1501.7(3)) and have not included several issues which were discussed in Forest Land and Resource Management Plans. We do not believe that repeating those issues and associated analyses here, when they are already available in another document, to aid the decisionmaker in making a reasoned choice among alternatives is necessary.

2

We disagree. A site-specific burning plan is required for each prescribed fire (Draft EIS pages II-46 and II-47). Each such plan sets constraints on weather and fuel conditions and for resource coordination so that the prescribed fire will be safe and effective (Draft EIS page IV-123) and pose the least possible risk to the environment. Given such planning, and the fact that the preferred alternative does not allow severe, high-intensity prescribed fires (Draft EIS pages II-11 and II-46 to II-51), mortality of wildlife and plant regrowth is minimal (Draft EIS pages IV-38 to IV-40 and IV-75).

Each prescribed fire has temporary effects on local and general air quality that can be controlled by smoke management practices as to the timing and nature of each burn (Draft EIS pages II-50 and IV-119 to 122). Prescribed fires on national forests account for less than 2 percent of the total forest fire smoke produced in the Ozark/Ouachita Mountains, so their contributions to regional air pollution and the "greenhouse effect" are negligible (Draft EIS page IV-122).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. These two activities account for almost 90 percent of all prescribed fire use on Ozark/Ouachita national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species.

Mitigation measures on Draft EIS pages II-46 to II-51 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat.

On pages IV-35 and IV-36 we recognize that fire can both increase or decrease plant susceptibility to damage. Additionally, as indicated in chapter IV, section C of the Draft EIS, fire is a natural part of the forest ecosystem in the Ozarks as evidenced by the presence of many fire-adapted species.

3

Increments of risk above or below established standards is not discussed in the EIS. If risk was less than the stated standard (more protective of wildlife health), we aused that risk for the analysis. With regards to "rare plants," a fully developed procedure is presented in appendix D to respond to the need for biological evaluation where a project may affect any species Federally listed as threatened, endangered, or proposed, or identified by the Forest Service as sensitive. Biological evaluation must be done in any situation which might affect these species as part of the site-specific analysis required (mitigations number 1 and 2, pages II-38 through II-40 of the Draft EIS).

4. Your research of available data seems exhaustive, but since almost no sight-specific data exists, it does not satisfy the requirements of NEPA. This is fortuitous, since we should not rely on data from the chemical companies, nor on modeling based on data from other locations. Anything you assume, your computer will believe. What could have a higher leaching potential than sandy loam soil? How about coarse gravel with a tiny bit of humus, like we have here in the Ouachitas?

5. Your assumptions that bio-accumulation need not be studied because of rapid initial elimination of 90% of herbicides is not thorough, especially since this mechanism had the greatest potential for catastrophe.

6. Another critical assumption is that lable precautions and Forest Service regulations will always be followed. This is not the case now, as a local Forest Service employee fired for insisting that present rules be followed, can attest. We have a strong "don't know-don't care" tradition among Forst Service contractors that will not be overcome without mandatory instruction, testing, licensing, bonding, supervision, and penalties for non-compliance.

7. Table IV 18 of Volume 1 you show manual treatment per acre appreciably less than for herbicides. I find the use of herbicides unjustified in any case on this basis alone.

8. The use of high impact mechanical treatments such as raking and disking should be completely eliminated. There is no need to subject the soil and surrounding streams to such an extreme activity. The little bit of humus and debris that survives the aftermath of a clear cut should not be piled up into windrows. We need MORE humus, not less.

9. After attending the Vegetation Management forum put on in the Mena District, I was very distressed to learn that Alternative B is a non-viable alternative, as it was described as very environmentally sensitive. We need to become environmentally sensitive if we are to have a healthy forest in 100 years. We must address this need over the needs of a greedy and over-indulgent consumer market. What is the purpose of offering a wide range of alternatives, if by your own admission, three were non-viable? Why weren't they replaced with viable alternatives?

Sincerely

Leigene B. Culver
Lynn Culver

4 We recognized the need to fulfill the requirements of NEPA at the program level on page I-8 of the Draft EIS and further recognize the need for site-specific analysis for NEPA compliance. Under the mitigations presented in chapter II, the first (page II-38 of the Draft EIS) requires that this program level information be incorporated at the field level through a site-specific analysis of activities.

"... coarse gravel with a tiny bit of humus..." is not a truly accurate representation of the overall condition of soil in the Ouachita or Ozark Mountains. Many are loamy soils, high in rock content, and low in organic matter. During analysis the rocky, thin soil of this area was considered, however, the Astatula sand (with no organic matter) overlying a subsurface cap is a soil far more susceptible to leaching and offsite movement. This soil type was analyzed in the Risk Assessment (chapter 4) and provides the worst-case scenario.

5 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

6 The mitigation measures for the use of herbicides (pages II-52 to II-59) are mandatory requirements and will be enforced. See mitigation measures 9 through 15 regarding the specific requirements on supervision, training, and protection of workers.

7 The economic analysis presented in the Draft EIS is, for the most part, qualitative. Table IV-18 clearly discloses that per acre costs of herbicides are higher than manual but lower than mechanical on an average. However, discussions in chapter IV, part C, include effectiveness of different treatment methods and show that some of the lower initial costs of manual methods are offset by the need for retreatment.

8 Eight alternatives are developed in response to issues and management needs, such as meeting output objectives in plans. To provide clear distinctions between alternatives, several factors are varied such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. High intensity mechanical and prescribed fire treatments are eliminated in all alternatives except H. While mechanical site preparation techniques may be disruptive to some plant species, there are others which need substantial disruption to reestablish. Availability of many tools within an alternative allows us to meet the needs of a wide variety of species. In the preferred alternative (F) in the Draft EIS raking is not available, and only light disking is available.

Additionally, prior to any vegetation management treatment, projects will undergo site-specific analysis (mitigation measure number 1 on page II-38 of the Draft EIS) which determines appropriate methods and tools, intensity and selectivity of applications, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. Mitigation measures for the use of mechanical equipment, pages II-51 and II-52 of the Draft EIS, will minimize effects to the soil and will protect soil and water resources.

9 To establish a range of alternatives, alternative A proposed no treatments, and, at the other extreme, a full vegetation control alternative was considered. All alternatives (A through H and five not studied in detail) were developed in response to issues and management requirements. All were analyzed, discussed, and described in the same manner. Alternative B is environmentally sound but fails to meet some Land and Resource Management Plan goals; alternative F is environmentally sound and meet these goals (Draft EIS table II-7).

547

11-6-89



Please use no herbicides on
forest lands being cut - Strongly
prefer alternative A allowing natural
growth.

"Please save our home"

Saida Yoder
P.O. Box 52
Leno, AR 71969

Response to Comments in Letter No. 547

From: Saida Yoder

Comment No.

Response

1 Your opposition to herbicide use and preference for alternative A were included in content analysis of all comments received. Note that alternative D also uses no herbicides. Page II-12 contains a table which shows 13 program areas where vegetation management is proposed under Draft preferred alternative F. Many of these activities are not associated with harvested areas.

Nov. 4, 1989

Dear USDA Forest Service,

Thank you for this opportunity to voice my opinion on the VMDEIS.

I am strongly opposed to the use of herbicides (poisons) in our national forest

1 because:

1) There is no such thing as an "acceptable risk" involving herbicide use. I am an extremely sensitive person, meaning I have adverse reactions to numerous products in today's market that are labeled with chemicals and thought to be safe. I do my best to avoid these chemicals by:

2) Living in a healthy environment, the Quachitas National Forest, & eating only foods I have either grown myself organically or bought from certified organic growers, & drinking untreated water from several of the finest springs in the world here in the Quachitas National Forest.

Response to Comments in Letter No. 548

From: Mary Canne]]

Comment No.

Response

1 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

2 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest. In case this should occur to workers who display unusual sensitivity, we require medical evaluation. Please see mitigation measure number 15 on page II-55 of the Draft EIS.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.

3 The use of herbicides poses an unacceptable risk to me through possible ground water contamination and possible air contamination through burning herbicide treated vegetation, adversely affecting my quality of life.

4 2) There are extensive "data gaps" in the human risk and wildlife risk assessments as stated on pages IV-8+9, and III-66+67, Vol. 1.

5 These "data gaps" are intolerable examples of what happens when people don't plan ahead. It would take more than laboratory studies to know what the impact of chemical use will be on our children and the offspring of our wildlife 50 years from now. What will the bioaccumulation of herbicides in the food chain be 50-100 years from now? It is our responsibility to

3 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

4 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

5 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

future generations to stop poisoning the earth.

For these reasons and many others I suggest, by request, the NAWA modified alternative D with reduced total acres of vegetative management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards alternative A, no action.

Thank you for this opportunity to comment.

Mary Connell

Rt. 8 Box 117

Menard, AR. 71953

6

Your preference for alternative Modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

7

Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.

549

11-6-89

1 Jim regained all herbicides & all
alternatives A.

- Ila Grover.

Rt. 4 HC 67. Box 41-A.

Oden, Ark. 71961

Response to Comments in Letter No. 549

From: Ila Grover

Comment No.

Response

1 Your opposition to herbicide use and preference for alternative A were included in content analysis of all comments received. Note that alternative D also uses no herbicides.

Nov. 3, 1989

USDA FOREST SERVICE
1720 PEACHTREE RD, N.W.
ATLANTA, GA. 30367

SUBJECT: VMDE'S COMMENTS

SIR:

THE USE OF HERBICIDES IN OUR NATIONAL FORESTS, ALONG WITH CLEARCUTTING, MUST BE ELIMINATED EVENTUALLY. THERE ARE OTHER ALTERNATIVES IN HOW THE FOREST SERVICE CAN MEET ALL THE GOALS OF LAND AND RESOURCE MANAGEMENT, AND VEGETATION MANAGEMENT MANDATED BY LAW. GOOD VEGETATION MANAGEMENT, IN MY OPINION, CAN BE ACCOMPLISHED BY A RESPONSIBLE MIX OF MECHANICAL AND MANUAL METHODS AND PRESCRIBED FIRE. INCREASED USE OF UNEVEN AGE TIMBER MANAGEMENT SHOULD SUBSTANTIALLY REDUCE THE USE OF HERBICIDES UNTIL THEY CAN BE ELIMINATED.

I HAVE READ THE SUMMARY OF THE VMDE'S, AND ALSO READ VARIOUS ARTICLES PREPARED BY THE DEFENDERS OF THE OUCHITA FOREST AND THE OWL. I BELIEVE THE USE OF HERBICIDES OVER A PERIOD OF TIME POSE AN UNNECESSARY RISK TO THE PUBLIC AND OUR ENVIRONMENT, AND THEREFORE SUPPORT ALTERNATIVE D, A PLAN WHERE NO HERBICIDES ARE USED AND VEGETATION MANAGEMENT IS MAINTAINED BY A VARIETY OF MECHANICAL AND MANUAL METHODS AND PRESCRIBED FIRES.

SINCERELY
Willard H. Runk

Willard H. Runk
31 Strandberg Circle
Mena, AR 71853

Response to Comments In Letter No. 550

From: Willard H. Runk

Comment No.

Response

- 1 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.
- 2 While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).
- 3 Your preference for alternative D has been included in the content analysis of all comments received. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

5 November, 1989

Ouachita/Ozark VMDEIS
USDA Forest Service
1720 Peachtree Road, N. W.
Atlanta, GA

Dear Sirs;

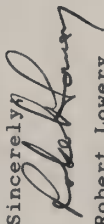
Regarding the Vegetation Management EIS for the Ouachita and Ozark National Forests:

I do not think you should ever give up any methods of managing vegetation on the National Forests or any lands as long as it is carried out in a prudent manner. I would defer to your professional judgement regarding which alternative to follow, rather than to that of the ill-informed, overly-emotional "environmentalists" (and that is a charitable characterization) getting most of the press on this issue.

1 I do urge you to reconsider your position of increasing the use of fire and hand tools; the record clearly shows more people killed and/or severely injured from the use of these methods than has ever been the case using herbicides.

Thank you for the opportunity to respond.

Sincerely,



Robert Lowery

Response to Comments in Letter No. 551

From: Robert Lowery

Comment No.

Response

1 Analysis in the EIS recognizes risks associated with all methods in part B of chapter IV. This analysis does show that manual and prescribed fire methods may result in either more severe or more frequent accidents or both. The eight alternatives fully evaluated in the Draft EIS represent the full range of possibilities and provide a basis for displaying possible environmental effects regardless of their favorableness or unfavorableness. This kind of information is essential for the Regional Forester to make a reasoned choice between alternatives. Management requirements and mitigation measures in chapter II seek to reduce or eliminate undesirable effects or to enhance desired ones.

Att: Mr. Steve McCorquodale, Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

November 6, 1989

Dear Mr. Steve McCorquodale and the Vegetation Management EIS Team:

I am a professional botanist, in fact, the botanist currently involved in the rare plant inventory of the Ouchita National Forest. Even though I have not had sufficient time to review the entire Ozark/Ouchita DEIS, I do have a few comments that I would like to make. I attended the informational session conducted by Gary Sick in Mesa last month.

1. The DEIS does not seem to me to meet the site-specific NEPA requirement for an EIS. Instead, it seems more like a management tool summary. I have worked on several EIS projects all of which addressed site-specific situations. The DEIS uses the term 'site-specific' throughout the text but it is certainly not site-specific. Instead, it 'covers' the entire Ozark/Ouchita region. The DEIS outlines the general methodology for various management practices but does not indicate which tools will be used in which areas. Because of this ambiguity, the DEIS can only serve as a guide to management tools and their probable environmental impact.
2. Even though the DEIS states that "Detailed site-specific analyses and biological evaluations are required for each project," it is unclear what is a project and what is not. Are there areas that don't deserve this sort of consideration? Also, it is not clear what kind of site-specific analyses will be done on each area.
3. Because of the ambiguities cited in #1 and #2, I am concerned whether or not "detailed site-specific studies" can actually be adequately performed on a definite project. Because the types and the execution of site-specific evaluations are performed at the district-level, how can we be assured that the districts have the appropriate staff to perform all of the evaluations? For example, the sensitive plant survey must be conducted in the appropriate seasons by someone who can recognize the plants? I have not met anyone with the Ouchita National Forest who has the interest, time, and/or training to do this kind of survey. The results of my survey is certainly not a complete inventory, but it is a step in the right direction. Another example concerns air quality evaluations. Why has the Forest Service filled an air quality specialist position (or need) with a forester who knows little about air quality? Does the hydrologist at the regional office also serve as a water quality specialist? As far as I know, the typical training for a hydrologist does not include a background in soil and water chemistry.

All of this is to emphasize the fact that just because the DEIS states that a site-specific analysis will be done for each project, there is no assurance that: 1) appropriate evaluations will be included in the analysis and 2) that the analysis will be performed by qualified personnel.

Response to Comments in Letter No. 552

From: Vernon M. Bates

Comment No.

Response

- 1 This is an umbrella or programmatic document. Each forest has or is currently completing a Forest Land and Resource Management Plan. This EIS and the Forests' land management plans will be used when preparing site-specific analyses as required in mitigation number 1 on Draft EIS page II-38. They will guide the process when working on specific projects. Please see implementation section, pages I-8 and I-10, of the Draft EIS.
- 2 The types of projects that are covered by this EIS are discussed in section B. Need for Action, item 3. Objectives and Treatments for Vegetation Management, pages I-4 through I-6 of the Draft EIS.
- 3 Project planning is a process that involves a variety of disciplines. Forest Service personnel are trained to seek help from appropriate sources such as Forest Service specialists and State Heritage personnel; and on-the-ground plant identification training sessions are conducted through the Regional Botanist. Based on the characteristics of a site, the appropriate level of expertise will be sought during site-specific analysis. Depending upon the type of project, or treatment proposed, this may or may not always require the expertise of a plant ecologist or botanist. For example, some projects may require expertise of a soil scientist, hydrologist, or an archaeologist. Wildlife biologists are routinely involved in the interdisciplinary silvicultural prescription and subsequent work planning processes. Additionally, plant ecologists/botanists are being sought for other national forests in the Southern Region.

4. It is quite disconcerting to see a number of alternatives in the DEIS. I feel compelled to vote, but why should a DEIS have any alternatives? The DEIS is a statement of how different practices affect the environment. The DEIS on one hand asks for a choice from the public, and on the other hand states that a site-specific analysis will determine the best management practice (bmp) for a given project area. Why does Alternative B have 6,200 acres for fuel reduction and Alternatives C, D, E, F, & G have 14,500 acres? Both acreages cannot represent the bmp, therefore, you tell me which one is best - don't ask me to vote, because I don't know where these acreages are located!
5. I recommend not using herbicides on the forest because there are so many inherent problems. I have a strong educational background in chemistry, having worked as a teaching assistant in the Chemistry Dept. at Memphis State University and as a research assistant in both inorganic and organic laboratories. My most important observation concerning the use of various chemicals, including herbicides, is this: even though we know a lot about the use of certain substances, there is much more that we don't know. This is the same line of reasoning used by Derek Bok, current president of Harvard University, when he said, "if you think education is expensive, try ignorance."
6. I would much rather take a conservative route and not use herbicides. Besides, the DEIS figures indicate that it is more economical not to use herbicides. For the bottom line of no herbicide usage, the only choice that I can vote for is alternative D. But my selection of D does not mean that I support 14,500 acres of Fuel Reduction, 36,400 acres of Wildlife Improvements, 26,000 acres of Site Prep, 14,600 acres of TSI, and 3,500 acres of Range Improvements.
7. I recommend that no vegetation management be done for wildlife, except for the red-cockaded woodpecker. The reason why I take such a strange position is because of the apparent lack of need for further vegetation management for the wildlife. With so much of the forest now in early and middle successional phases, I don't believe that further disturbances to the vegetation are necessary. Please let me know what animals are in need of 36,400 more acres each year above what is currently available.
8. I believe that so much material for the DEIS has been copied from the Coastal Plain DEIS and different situations apply. For example, DEIS - 1-2 gives the idea that wildlife openings enhance habitats for T & E species. This is mostly incorrect. Summary - xi states that lack of treatments may prevent recovery of certain T & E species. This is misleading and incorrect. Same paragraph, "Many species are fire-dependent, and some are sensitive to intensive or frequent treatments." Most T & E's in Ozark/Ouachita region are not fire-dependent. Instead, most are probably susceptible to moderate intensity burns.
9. DEIS IV-02, first paragraph, first sentence is entirely wrong. It is unfair to tell the public that "disturbances" are essential for the continued existence of some T & E species. The red-cockaded woodpecker is not an example of a species that is adapted to a disturbance-related environment. Manual methods have been successful for this bird on the Piedmont NWR; fire is unnecessary.
10. DEIS IV-03 - the Ouachita hedyotis is a diminutive, herbaceous annual, not a woody plant. DEIS IV-04 - Sensitive plants may benefit from herbicide treatment of neighboring plants, but this is quite picky. The whole life cycle has to be taken into account because of the delicate nature of the seedlings. As far as I know, no-one has done this sort of research.

4 The Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR parts 1500-1508), specifically 1502.14, require us to develop and objectively evaluate a range of alternatives. Additionally, eight alternatives are developed in response to issues and management needs, such as meeting output objectives in plans. To provide clear distinction between alternatives, several factors are varied such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. All alternatives (A through H and five not studied in detail) were developed in response to issues and management requirements. All were analyzed, discussed, and described in the same manner.

5 The commenter's concerns regarding the use of herbicides and preference for alternative D have been included in the content analysis of all comments received. Prior to any vegetation management treatment, projects will undergo site-specific analysis (mitigation measure number 1 on page II-38 of the Draft EIS) which determines appropriate methods and tools, intensity and selectivity of applications, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. This includes the examination and evaluation of a reasonable range of alternative methods, including the use of methods which do not involve herbicides and a "no action" alternative.

6 A great majority of vegetation management for wildlife is performed in pine and pine-hardwood forest types. An absence of vegetation management will allow gradual plant succession in many areas, which in itself is not bad under some circumstances. However, in southern pine forests, succession toward climax forest types may produce a hardwood forest, a condition quite foreign to what probably existed in prehistoric times. The southern pine forests, to which the Red-cockaded woodpecker are endemic and in which virtually all resident species of plants and animals are to some degree fire (disturbance) adapted, are fire climax ecosystems. Control of periodic natural fire and a reduction in man-caused fires has greatly reduced vegetation changes by fire, once common across the landscape. In the absence of wildfire, vegetation management for wildlife, primarily in the forms of prescribed fire, and Wildlife Stand Improvement - understory and overstory development, are tools with which we attempt to mimic habitat conditions which may be scarce, and distribute them spatially on a landscape basis. Forest ecosystems are not static, but very dynamic, and new early seral stage conditions are created to replace those that move into mid-to-late successional stages.

7 Please see our response to comment 6 above. We agree with many of the points you make. However, perhaps because of the programmatic nature of this document, we have made general statements which we urge you not to interpret as being universal. Much of the problem you cite probably stems from the fact that we have combined discussions of threatened, endangered, proposed and sensitive plants and animals at most places.

In reality, our objective is to enhance or sustain populations at levels that either would permit recovery or prevent listing. The objective is probably most adequately stated in mitigation number 2 on pages II-39 and II-40 of the Draft EIS. We also recognize, as you point out, whenever disturbances are created they may be created by using a variety of methods, not just fire.

8 We disagree. National forests are managed to provide a variety of habitats, some of which are essential to the continued existence of some threatened and endangered species. Many species evolved in a disturbance-related environment. For these species, some forestry practices and vegetation management methods mimic the natural disturbances essential for continued species viability.

The Red-cockaded woodpecker in the southeastern U.S. has become endangered as a result of dependence on mature, open pine woodlands. This habitat, maintained in the past only by recurring fire, has become scarce because of both the cutting of the pine forests for timber and the exclusion of fire. (Ligon et al., 1986, Auk 103:848-855, Report of the American Ornithologists' Union Committee for the conservation of the RCH.)

Fire is not the only mechanism for creating disturbance or improving habitat. As you suggest, manual method disturbances are sometimes effective.

9 Comment noted.

8. Wetlands - an important issue that has not been addressed. Protection of wetlands begins with their identification. The accepted methodology for identification of wetlands follows the Corps of Engineers Delineation manual. All of our rivers, streams, creeks, ponds (man-made or not), and seepy areas are wetlands. They comprise more than the 20 acres cited on III-17.

Roads have often been placed in and alongside riparian wetlands. Debris from road construction, including old culverts, have been deposited or left lying on streambanks. Cutting down trees and brush along road corridors and pushing them into marshy areas is another major problem. Wildlife improvements in riparian areas should be coordinated with the USFWS if they are deemed necessary. All of these activities are illegal unless the activity falls under the national or Section 404 permit.

I'm sorry that I don't have more time to respond to the DEIS.

Sincerely,

Vernon M Bates

Vernon M Bates, Botanist

10

Our statement that there are 20 acres of wetlands is based on information contained in each of the Forest's Land and Resource Management Plans. That total is consistent with the definition we use on page VII-8. We agree that using a different definition would result in different acreage, but we feel it is appropriate to use the one we did so as to be consistent as possible with each forest.

Mitigation measures require buffers around wetlands and prohibit deposition of soil and debris in them (pages II-49 and II-52 in the Draft EIS). These mitigation measures also control sediment and protect wetlands from upstream actions. Effects are analyzed in chapter IV, section IV-G (water) in the Draft EIS. Vegetation management will not reduce wetland acreage, and conversion is outside the scope of the EIS.

12 Pilot Point
Little Rock, AR 72205
November 6, 1989

VMPEIS Comments, USDA Forest Service
1720 Peachtree Road NW
Atlanta, GA 30367

Gentlemen:

1 Please allow me to respectfully register my opposition, and the opposition of my entire family, to any management plan that would involve the use of herbicides in the Ozark-Ouachita Mountains. The Arkansas environment is already heavily poisoned by industrial and agricultural use of herbicides and pesticides. Let's not add to the pollution. Use a management alternative that would spare our soils, our waters and our wildlife. The state will benefit through tourism and a better quality of life.

2 We prefer Alternative D, without the destruction bulldozers and poisons. Thank you.

Very truly yours,
John L. Ferguson
(John L. Ferguson)

Response to Comments in Letter No. 553

From: John L. Ferguson

Comment No.

Response

- 1 Your opposition to herbicide use and preference for alternative D were included in content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 Every alternative affects soil, water, and wildlife. Positiveness or negativeness of these effects often primarily upon how it is carried out and what mitigation measures are required. The Draft EIS evaluates possible effects on soils, water, and wildlife in parts F, G, and D of chapter IV, respectively.
- While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
- Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Edwin E. Waddell
9307 Woodbine Drive
Sherwood, Arkansas 72116

November 6, 1989

Mr. John E. Alcock, Regional Forester
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. Alcock:

1 I appreciate very much the opportunity to submit comments on the Draft Environmental Impact Statement (DEIS) for Vegetative Management on National Forests in the Ozark/Ouachita Mountains.

I support your efforts in the development of a management plan which gives consideration to all aspects of vegetative management on the Forests, providing each the maximum benefits possible in conjunction with all others involved.

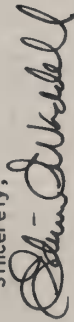
2 I also wish to commend you for the extensive study which has been conducted to ensure that the final plan adopted represents a full consideration of all possible factors applicable to the Forests.

3 In reviewing the Alternative proposed for consideration I feel that Alternative F more closely meets the overall objectives as planned for this management activity. I also feel, however, that this Alternative (F) does not fully meet the criteria for some requirements of vegetative management that could be afforded. I refer specifically to aerial application of herbicide for specific purposes under approved conditions. This is a proven method of achieving desired results in otherwise difficult or costly situations.

From this standpoint my comment in this regard is recommendation of a combination of the provisions of Alternative F with the inclusion of the aerial herbicide application portion of Alternative G.

Again, I appreciate this opportunity to comment of the Draft Environmental Impact Statement for the Ozark/Ouachita Mountain Region.

Sincerely,



Edwin E. Waddell

EEM:epg

Response to Comments in Letter No. 554

From: Edwin E. Waddell

Comment No.

Response

- 1 The Interdisciplinary Team appreciates your favorable comments about the analysis.
- 2 Your qualified support for alternative F was included in content analysis of all comments received.
- 3 Aerial application of herbicides is fully evaluated in appendix A, and is shown to have the benefits you suggest. Though the Draft preferred alternative F does not include aerial application, it does not imply that aerial application is an unacceptable application technique. While aerial application is shown by the Draft EIS to be viable, our analysis shows that at least for the programs proposed under alternative, it is not essential for treatments on national forest lands in the study area.

DEAR SIR

I DON'T THINK POISONS

1 SHOULD BE USED ON

TREES IN THE NATIONAL

FOREST. LOGGERS

2 SHOULD USE CHAIN SAWS

TO TAKE CARE OF THE

WOODS

JAMIE WHITE

Response to Comments in Letter No. 555

From: Jamie White

Comment No.

Response

1 Your opposition to herbicide use was included in content analysis of all comments received.

2 Manual treatment methods (such as using chain saws) are one of five possible methods evaluated by the EIS and in many situations they are the most appropriate tool.

Nov 5 1989

Dear Sirs

I hope I am not too late in expressing my opinion on vegetation management in the Ozark/Ourichuta National Forest. After studying the alternatives, I feel option D is the most sound. It uses less of the chemicals about which we know very little, and more labor, which is a resource that we must use if our society is to continue on a productive course. Thank you for the opportunity to have a say.

Sincerely
 Marcia J. Donley
 MARCIA-DONLEY
 SNOWBURN ARIZ
 72675

Response to Comments in Letter No. 556

From: Marcia Donley

Comment No.

Response

- 1 Your preference for alternative D was included in content analysis of all comments received.
- 2 While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
 Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 3 Choice of treatment method has essentially no effect on local employment (see minor differences noted in table II-8 on page II-70 of the Draft EIS).

November 5, 1989
Marian Wells
6307 Melody Lane
Dallas, TX 75251

USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Sir:

I am writing in order to express my opposition to the use of herbicides in the Ouachita National Forest. I feel that it is not necessary to manage public lands with the use of herbicides. UMDEIS makes unjustified assumptions about "acceptable use" involved with herbicide use. In other words "acceptable by whom". There is risk involved here by possible ground water contamination.

Also, UMDEIS did not fully analyze all potential impact of water quality in geological regions containing forest areas, especially where line lands have created areas of rapid internal draining during heavy runoff.

As a former Forest Ranger, I cannot overlook the use of herbicide as they will disrupt the natural ecological processes of the forest. I support the NWSA modified alternative D with reduced total acres of vegetation management, the use of mechanical thinning as a first priority, and a second priority of thinning followed by a second thinning. I support the use of herbicide as a last resort.

1
2
3
4

From: Marian Wells

Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk. Long term mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

3 Potential effects on ground water are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.

4 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

5 November 1989

Mr. John E. Adeshch
 USDA Forest Service
 1720 Pennington Rd., N.W.
 Atlanta, Ga. 30367

Re: D EIS for 03ad & Oneale tracts

From: Mr. Adeshch

As a native American I would like to comment on this plan.

1 I am against the use of herbicides in our National forests. This is due to the fact that the long term effects on the forest, wildlife and humans are incalculable.

2 We are now just recovering from the use of DDT.

3 I would prefer alternative D or E with no herbicides.

I compliment your improvement over the first funding plan and am looking forward to seeing the final plan.

Sincerely,

John Adeshch

Response to Comments in Letter No. 558

From: D. Larry Jones

Comment No.

Response

1 Your opposition to herbicide use was included in content analysis of all comments received.

2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective, rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

3 Your preferences for modified alternative D or E were included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tim Snell
Route 2 Box 76
West Fork, AR 72774
(501) 839-8218
November 4, 1989

Steve McCorquodale, Leader
Vegetation Management EIS Team
1720 Peachtree Road, NW
Atlanta, Georgia 30367-9102

Dear Mr. McCorquodale:

Here is my official response to the draft environmental statement for vegetation management on National Forest of the Ozark/Ouachita Mountains area.

If the VNDEIS is to be a complete statement (study) of the impact to the environment it can not overlook the form of vegetation management which has the greatest impact on the environment, namely, timber harvest. To so narrowly define vegetation management, as to not include the main form of vegetation management used on National Forest land, is illegal.

On a given site one of the most important factors influencing vegetation is the amount of light available for plant growth. Every plant has a range of light intensity required for its survival and growth. This range of light intensity is its light regime. The method or degree of harvest determines the amount of light available to grow the regeneration or replacement trees on a site. Vegetation, especially timber regeneration, is most cost effectively managed or manipulated by regulating the amount of available light, through degree or percent of canopy harvested. It is well known that single tree selection, especially when done lightly and infrequently, results in regeneration by more shade tolerant species. Clearcutting results in regeneration by shade intolerant or pioneer species. In between these two extremes in light conditions is where the more valuable hardwoods, such as red oak and white oak, find the best light for their growth.

Group selection is the best tool we have for manipulating light conditions. I feel that there is a place for light regime management in the VNDEIS and that is under biological controls. Living trees can (by their shade) and harvested trees (by the sunlight they provide) control undesirable vegetation and promote desirable regeneration.

Light regime management is cost effective because when done properly eliminates expensive manual, mechanical or chemical control later in the management of the forest.

Mechanical site preparation and burning actually lower site index and reduce long term productivity through the loss of soluble and water transportable minerals and nutrients which is an irreversible commitment of resources. Mechanical site preparation also constitutes an irreversible commitment of resources as relates to watersheds, wildlife, recreation and aesthetics. These irreversible and irretrievable commitments are illegal as well as immoral.

Response to Comments in Letter No. 559

From: Tim Snell

Comment No. Response

- 1 We are unsure of your basis for stating that our definition of scope for our Draft EIS is illegal. We have consistently stated that timber harvest is outside the scope of this EIS because it is already addressed by Forest Land and Resource Management Plans. We believe the Council on Environmental Quality Regulations urge us to avoid redundancy by scoping (40 CFR 1501.7) and by tiering (40 CFR 1508.28).
- 2 We have not ignored light or shade tolerance of species. See our discussions on pages III-3 through III-11 of the Draft EIS. These characteristics of plants are important considerations for many of our project proposals. While your theory is interesting, we are unaware of any scientific evidence that manipulation of harvest methods negates the need for any other cultural treatments throughout the life of the stand. In fact, scientific studies seem to indicate the opposite. Again, harvest or silvicultural methods are not within the scope of this EIS and are discussed in Forest Land and Resource Management Plans. Note also that this EIS evaluates 13 program areas where vegetation management may be used, not just timber management.
- 3 Potential effects from mechanical site preparation and burning are disclosed at numerous places in chapter IV. Appendix B discusses some effects from burning in greater detail. Part R of chapter IV of the Draft EIS indicates that this EIS makes no irreversible or irretrievable commitments of resources. We are unaware of any prohibitions of irreversible or irretrievable commitments of resources. The Council on Environmental Quality Regulations, 40 CFR 1502.16, require only that they be identified.

- 4 I am opposed to the use of chemical vegetation manipulation because chemical vegetation manipulation is an unacceptable replacement for good forestry management techniques. Species composition and density of regeneration can be controlled by method of harvest, timing of harvest, natural competition and succession factors. Good forestry management requires an understanding of the biological factors that influence tree survival, competition and succession, especially as relates to light requirements, seed crop availability and seed crop viability. It is important to remember that forestry is both a science and an art, and that regeneration techniques can be taught, learned, refined and adjusted to fit site and forest-wide goals, objectives and conditions.
- 5 I feel that use of chemicals to manage forests is detrimental to native diversity, wildlife, watersheds, tourism, recreation, aesthetics, local economy and the health of the citizens.
- 6 The data on which the vegetation management draft environmental impact statement was based had too many data gaps to be useful, and until these data gaps are filled with hard facts the VMDEIS will not be finished.

I strongly urge alternative "D" as modified by the Newton County Wildlife Association.

Sincerely,
Tim Snell

Private Forestry Consultant

Coordinator, Ozark Small Farm Viability Project and
Ozark Organic Growers Association

- 4 The Draft EIS evaluates five possible methods of vegetation management. Each of these five may be used in scientific forestry. We have presented eight alternatives which vary the amounts and kinds of treatments proposed so as to take a hard look at possible environmental effects and to allow the decision-maker a basis for decision.
- 5 Your opposition to herbicide use and support for a modified alternative D were included in content analysis of all comments received.
- 6 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

Jerry Williams
915 Windamere
Hot Springs, AR 71913

November 4, 1989

Ouachita/Ozark VMDEIS
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367
Attn: Mr. Gary Sick

RE: COMMENTS FOR VMDEIS FOR THE OUACHITA/OZARK MOUNTAIN REGION

Dear Gary,

I would first like to raise my concerns about the Forest Service's attempt to separate timber harvesting and vegetation manipulation. Timber harvesting is vegetation manipulation and the method of harvest determines the amount of further vegetation management that will be needed to obtain the target density of desired crop trees. The harvest method has considerable impact on the follow up vegetation management methods. For instance, intensive site prep methods such as shear and rake or soil ripping can be used on even age stands, but they cannot be used on single tree or small group selection stands. The two activities (harvest and vegetation management) go together and cannot legitimately be separated.

The type of harvest method and further vegetation manipulation after harvest both cause negative impacts upon soil, water, wildlife, diversity, recreation, etcetera. Both the Forest Plans and the VMDEIS do not accurately assess the negative impacts upon soil, water, wildlife, diversity, recreation, etcetera caused by the timber and vegetation management activities on the Ouachita and Ozark National Forests.

There is more than adequate historical proof on both forests revealing the above stated negative impacts which were not considered. The goals of each plan drive project activities and these goals are what initiate the chain of events including timber harvest and vegetation manipulation that lead to these damages. The VMDEIS did not consider that the Plan goals and forest type classification system fails to consider that many species contribute to an ecosystem, but they are not given adequate consideration in forest type classification. The Plans are further driven by very ambitious timber goals which necessarily dictate heavy vegetation management to go along with harvests. This leads to heavy dependence on damaging vegetation manipulation methods in order to suppress species competing with the desired crop trees.

As in the case of the Forest Plans, the references to forest practice studies in the VMDEIS are almost worthless since they do not even compare with actual field practices on both forests. In addition, it is a total violation of the public trust that neither forest has

Response to Comments in Letter No. 560

From: Jerry Williams

Comment No.

Response

- 1 Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.
Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. Pages I-6 to I-8 of the Draft EIS discuss relationships between harvest systems and related vegetation management.
For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. Vegetation management projects to regenerate new age class are designed to reduce plant competition in that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems. This EIS supplements Forest Land and Resource Management Plan analyses.
- 2 Effects from vegetation management are discussed in chapter IV. You did not identify specific inadequacies in the analysis that we can address.
- 3 Questions about the adequacy of Plans must be resolved in the Forest Land and Resource Management Planning process. We stated on page I-8 of the Draft EIS the kinds of decisions the EIS would be used for, and we established that this EIS would not deal with questions of resource allocation.
Studies cited in the EIS were selected for several reasons, some of which include: they were conducted on sites similar to those found in the study area; they reported representative (fairly universal) effects; they reported worst-case effects; or they were actually conducted within the study area. We believe this represents a reasonable scientific approach.

especially sound, realistic monitoring of actual field activities, especially in regard to herbicide use, burning and clearcutting which leads to a heavy dependence on additional vegetation manipulation by way of herbicides, mechanical methods or fire.

It is wrong that the VMEIS has to use scientific modeling to fill data gaps which might have not been gaps if proper monitoring had been done for the last 20 years of such methods use on both forests. For this reason alone do not expect me or much of the public to have any faith in the VMEIS and its claimed acceptable risk. Such an inadequate amount of monitoring may well be a violation of NEPA. It is unacceptable that the VMEIS relies on projections in order to assess impacts and risks to humans, wildlife and fish in light of the non-existent monitoring on these forests. With use of herbicides, it is clear that the public does not trust the Forest Service and this lack of sound monitoring is very good reason for this mistrust. The burden of proof that herbicides do not cause harm must lie clearly upon the shoulders of the user (Forest Service). Supposedly sound scientific documents such as the VMEIS are nothing more than just that, documents. The 'proof' is in the pudding' and that means very diligent, sound monitoring of all impacts.

The Forest Plans and the VMEIS both call for monitoring but they are inadequate. It is very likely that the VMEIS (claimed) monitoring will not happen just as is the case with the (claimed) Forest Plan monitoring.

The VMEIS failed to consider any cases where actual contamination of soil and water had occurred due to pesticide/herbicide use and, furthermore, prove that the same cannot happen on these national forests.

The VMEIS admits the fact that repeated burns do reduce the hardwood component, but it did not assess the short and long term effects upon diversity from such burns used for various activities including site prep, fuel reduction, supposed wildlife improvements, etcetera.

The VMEIS did not include sufficient site specific studies, research, etcetera for the Ouachita/Ozark Region to reasonably predict impacts for this area. For instance, the VMEIS uses a study in Florida to show that herbicides applied in a highly permeable soil did not cause groundwater damage. However, in the mountains many areas have soils with low permeability so herbicides can run off rapidly. This can cause immediate surface water damage or herbicides can attach to soil particles and be released over a long period of time.

For the reasons in this letter and in other referenced letters, I oppose the future use of herbicides by the U.S. Forest Service for vegetation management because:

(a) Of extensive data gaps in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, and II-66 & 67, Volume I.

(b) Of significant needs for further research to fill these data gaps as stated on page IV-147, Volume I.

5 NFMA regulations (36 CFR 219) include provisions for monitoring, which are included in Forest Plans. We cannot address adequacy of Plans in this EIS. Monitoring is discussed on pages I-9 and I-10 of the Draft EIS. It relates to this analysis, and a number of monitoring requirements are included in mitigation measures in chapter II.

6 Part D of chapter I, pages I-8 through I-10, explains implementation.

7 The process we used was to evaluate programmatic and not site-specific effects. In order to do this, we present program level data. Within the process we have, appropriately, displayed the potential for accident and mitigations necessary to reduce risk should an accident occur. NEPA documentation is a disclosure which is analytic and action-forcing; it is not a justification document.

8 Please review information presented on pages IV-30 through IV-45, IV-75 through IV-79, and mitigation measures numbers 1 through 4 on pages II-46 and II-47 of the Draft EIS.

9 See our response to comment 4 above.

The worst case situation evaluated -- percolation/leaching through an Astatula sand -- is a significantly worse case than that presented by fractured sedimentary rock overlain by a layer of soil containing organic matter. Karst areas are protected from application of herbicide by mitigations presented in chapter II section #.2.c of both the Draft and Final EIS. Later, site-specific analyses can apply unique site conditions to these findings for comparison.

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-98 to IV-105. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-11, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to aquatic life.

10 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, anticipate data gaps and prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.

11 We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.

- 12 (c) Of failure to note needs for research on: neurological and immunological effects on humans; total lack of research on "full formulations" of proposed herbicides with all inert ingredients and possible contaminants along with their break down byproducts and metabolites;
- 13 (d) Of failure to perform qualitative analysis of data to determine scientific verifiability.
- 14 (e) VMDIS does not adequately address the burning of herbicide treated vegetation for dioxins, difurane, chlorine gas, cyanide, phosgene gas or chlorine dioxide.
- 15 (f) Possible adverse impacts on biodiversity and threatened and endangered species; and
- 16 (g) USFS has previously failed to monitor and report herbicide spills onto workers at rates higher than the worst case analysis in the Buffalo District of the Ozark/St. Francis Forest in April of 1989.
- 17 (h) The VMDIS fails to properly assess the impacts upon soil, wildlife, diversity, water quality, water quantity and recreation.
- 18 (i) The assessment of impacts is based on studies and information which are inappropriate to the Ouachita/Ozark Mountain region and to actual field practices.
- 19 Therefore, I find the risks associated with herbicide use unacceptable and recommend that our public lands not be managed with herbicide use. Who will take the final responsibility for herbicide use where, as here, chemical manufacturers state that use is at the user's own risk and USFS is immune from civil suit for damages?
- 20 I am also critical of the fragmentation of the vegetation management issue into two documents: the LRP and VMDIS, therefore I support by reference U.S. Fish & Wildlife Service Memorandum dated August 3, 1989 for protection of endangered species and habitat, forest fragmentation and abundance of existing early successional habitat and U.S. Department of Interior letter dated August 11, 1989 which replies to Ouachita GIS LRP. I also reference the Attorney General of Texas' letter response to VMDIS for Texas (Coastal Plains).
- 21 Therefore I support a modified Alternative D as proposed by Newton County Wildlife Association, Ouachita Watch League and Northwest Arkansas Environmental Guardianship, including long-term study to eliminate the need for vegetation management through more ecologically sound timber practices, such as ECVA's Flexible Forestry, including:
- 22 1. Reduced vegetative manipulation to 75,000 acres per year in light of revisions and amendments to current LRP's;
2. Only low intensity prescribed burns on acreages which have not had herbicides applied in the last 10 years;
- 12 The areas of neurotoxicity and immunotoxicity are data gaps of concern to us. However, protocols for developing and evaluating data in these areas are not yet available. There is no common ground on which scientists can base conclusions. We are unaware of scientific evidence documenting problems in either areas resulting from proper application of the products approved for use in this EIS.
- 13 Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.
- 14 We are unclear as to the purpose or meaning of a "...qualitative risk assessment..." 40 CFR 1502.22 requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on reliability and relevance to the process.
- 15 The criterion proposed "...to determine all possible effects..." is at variance with 40 CFR 1502.2(b) which states: "Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues..." and also is inconsistent with 40 CFR 1502.22 which deals only with "...reasonably foreseeable significant adverse effects on the human environment..."
- 16 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, herbicide residue in smoke presents negligible risk.
- 17 See also response to comment number 4 in Letter No. 245.
- 18 Effects on species composition on a given site are discussed in sections C and D of chapter IV. These effects may occur when using any method and are not unique to herbicide treatments. Recognizing that these effects can be detrimental at times, we included mitigation measure number 3 on pages II-40 and II-41, mitigation measures 17, 18, and 19 on pages II-44 and II-45, and mitigation measures 7, 8, 9, and 10 on page II-42. These provisions coupled with site analysis and stocking provisions in Forest Land and Resource Management Plans ensure management for a variety of species including special provision for threatened and endangered species.
- 19 See also response to comment number 2 in Letter No. 42.
- 20 Problems of the type you describe within contract application are the responsibility of the Contracting Officer's Representative (COR). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.
- 21 See our response to comment number 2 above.
- 22 See our response to comment number 4 above.
- 23 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

20

Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Generally, this process concludes with an amendment to the Plan. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS (40 CFR 1501.7(3)) and have not included several issues which were discussed in Forest Land and Resource Management Plans. We do not believe that repeating those issues and associated analyses here, when they are already available in another document, to aid the decisionmaker in making a reasoned choice among alternatives is necessary.

21 See our responses to Letter No. 241.

22 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures (see preface to volume I, Final EIS) especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

23. No intervention in habitats which might support any endangered plant or species until long-term studies indicate impacts appropriate to the habitat.
24. Single tree, all species selection management and limited justified site specific use of group selection management with 1/2 acre maximum openings.
25. Manual methods of treatment with some low intensity mechanical wildlife treatments and site prep, using mechanical site prep methods which expose no more than 6% of soil on a site;
26. No firewood permits for herbicide treated wood.
27. Increased use of uneven aged timber management to reduce the need for vegetation management which is caused by excessive opening of the forest canopy by current even age management which allows full sun to reach the forest floor.
28. Maintenance of mixed forest condition with a mix of species in various sizes and numbers as existed on each stand prior to manipulation by vegetative control which necessarily must be considered in conjunction with harvesting techniques.
29. Use of biological treatment which do not include domestic animals since deer are already present in sufficient numbers to control vegetation.
30. No vegetation manipulation (involving cutting or killing of trees other than minimal, small permanent openings in areas that will not impact unfragmented areas) in special areas identified in appeals, negotiations and public comments for both Forest Plans.
31. Furthermore, I oppose soil ripping because of its extensive damage to hardwoods, to soil and to soil environment. This agricultural method opens many avenues and possibilities for damage to soil, water, groundwater cultural resources and diversity. The impact of soil disturbance in combination with acid rain can cause considerable long term negative impacts. This method of site preparation does somewhat hold large soil particles on site soon (not long term) after ripping, but it contributes substantially to soil erosion and is especially damaging because of fine soil particles yielded to water.
- I also incorporate by reference the VDEIS comments of the Newton County Wildlife Association, Ouachita Watch League, Northwest Arkansas Environmental Guardianship and Al and Jane Brooks (9/15/89).
23. Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.
24. Harvest systems of any kind are outside the scope of this EIS. They are addressed in Forest Plans. See our response to your comment number 1.
25. In spite of the lack of scientific evidence that unacceptable effects occur, the Final EIS includes a provision that injected stems will not be sold for firewood.
26. See our response to comment number 15 above.
27. Comment noted. The Draft EIS evaluated the use of domestic livestock as a biological method of vegetation management (pages II-37 and II-38, Draft EIS); however, the Draft preferred alternative (alternative F) did not allow the use of this method (Draft EIS pages II-10 to II-12). In the Final EIS also, the use of domestic livestock as a biological control method is not available for use.
28. Deer and other wild animals are free to browse or graze any place in the general forest area. To suggest that we somehow control them is extremely controversial and probably not very practical.
29. This requirement deals with land allocations, and those choices are made in the Forest Land and Resource Management Planning process.
30. Potential effects from ripping are discussed at numerous places in chapter IV (by affected environmental element). The results of our analysis indicate that ripping falls into our classification of mechanical tools as "low to moderate disturbance." Several mitigation measures address potential impacts you mention. See especially mitigation measures 1, 2, 3, 4, 5, 6, 7, and 8 on pages II-51 and II-52 of the Draft EIS. We do not find any evidence that ripping causes significant adverse effects.

I also include by reference the public comments of all persons, groups, etcetera who provided comments to the 1989 Draft Plan for the Ouachita asking for elimination of, or a significant reduction in, herbicide use. Also I include by reference all Appeals of both Forest Plans and all project level timber sale appeals on both forests since these appeals document facts and impacts which reveal the shortcomings of the VMSIS on these forests.

I would like to point out, that in accordance with NEPA, any unpublished information referenced in the VMSIS which is not on file at Arkansas Tech University cannot be part of the VMSIS record.

Where 'I' is used in this letter it shall mean 'we', Concerned Citizens of Hot Springs.

Very truly yours,

For: Concerned Citizens
of Hot Springs

Michael Crawford
Stan Heard
James Norman
Jerry Williams

By: *Jerry Williams*
Jerry Williams

We are unaware of any requirements of 40 CFR Parts 1500-1508 of this nature. References which we filed at Arkansas Tech are references (published and unpublished) we cited in the EIS. Our decision to place these materials in the library was made in response to a public request to make them more readily available. Availability of records is discussed at 40 CFR 1502.21 (which accounts for placement of materials at Arkansas Tech) and 40 CFR 1506.6(f) which accounts for a plethora of materials often referred to as "process records." The two overlap but they are not the same.

James Norman
Rt. 8 Box 34
Oden, Ark.
71961

Nov. 4, 1989

U.S.D.A. Forest Service
Southern Region
1720 Peachtree Rd., N.W.
Atlanta, Ga. 30367

RE: Vegetation Management DEIS
Ozark/Ouachita mountains

Dear Mr. Alcock,

I feel the most significant statement in this document makes is presented as "data gaps" and "research needs". No amount of extrapolation or interpolation can adequately span such a breach. These research needs should be addressed before implementing any plan for intensive management for any National Forest.

1 Recent incidents of human illness caused by consumption of watermelons sprayed by a "safe" level of pesticide illustrates the inadequacy of quantitative risk analysis. There is a growing movement on the part of food processors and retailers away from food containing pesticide residues due to the demands of consumers. This trend shows a growing mis-trust of pesticides including those for which the EPA has established "safe" levels.

2 The DFEIS makes several references to the quick elimination rate for several of the pesticides proposed for forest use. The inference would seem to be that this would somehow make these compounds safer to use. The phenoxy pesticides, which are now highly controversial, likewise show a high short term elimination rate. The fact that these pesticides find their way into the human system at all may be the most significant finding.

3 The case against synergistic activity disregards all exposure to pesticides except those that are job related. There are many sources of pesticide exposure in the everyday environment and one should not consider just a single source. Even the food we eat may have a certain amount of pesticide residue and be considered "safe". Yet the combination of pesticides may have an effect that we cannot predict.

4 One of my concerns is the impact vegetation management may have on native plant associations and within stand diversity. Systematic vegetation management practices on the Ouachita National Forest show this to be an area of potential abuse regardless of the methods used for their implementation. It is my hope that changes on this Forest will curb the abuses of the past or at least help. I feel that the present Forest administration is at least moving in that direction.

5 Increased water yield and consequent stream siltation is a matter that should be of extreme concern. We need studies in this area to clarify what we perceive to be a disaster and a disgrace. Streams in the Ouachita's in many cases are becoming wider and shallower as stream scouring becomes increasingly

Response to Comments in Letter No. 561

From: James Norman

Comment No.

Response

1 Your concern about herbicide use has been included in the content analysis of all comments received.

Use of risk assessments is scientifically accepted, and ours has undergone extensive scientific review (Draft EIS, pages VI-3-4 and V-7-8). Modeling is used in the Risk Assessment to project incomplete or unavailable data. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, we have actually magnified the estimate of risk far beyond what is probable in the field. Where meaningful comparisons could be made between available data, quantitative analysis was done. Where necessary, analogy was used to develop these estimates. Otherwise, qualitative estimates were made. The Risk Assessment looks at a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures under each alternative. The effects of those exposures are evaluated based on what is known about the toxicity of each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community. The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 633. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were made. Acute toxicity testing on the full formulations is part of the available data on each herbicide. The chronic toxicity of the inert ingredients in each formulation is evaluated for those inert ingredients considered by EPA to pose a risk of health effects (Lists 1 or 2).

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 At present there is no evidence which suggests that any of the herbicides approved for use bioaccumulate anywhere in the human body. Test animals did not show such an accumulation. Analogy with phenoxy herbicides is, in this case, unjustified. We agree that anything which reduces exposure should be considered and suggest review of the required mitigation measures on page II-55 and II-56 of the Draft EIS.

manifest. Boulder clogged culverts at ephemeral stream crossings on Forest Service lands give mute testimony as do once deep pools in small mountain streams now choked with gravel and sediment.

6 The herbicide spill scenario is basically flawed if it is assumed that one liter of water taken at random from a pool or lake after a spill would contain a certain ppm of chemical. This would assume 100% dilution and would not be the case in a real world situation. Factors such as miscibility, solubility, ionic tendencies, and specific gravity for a particular compound would render this an impossibility.

7 Given the "data gaps" and "research needs" out lined in this DFEIS plus such indications as we have should serve to show the need for caution and, indeed, reassessment. It is a time for the Forest Service to look forward and re-establish itself as the premier conservation organization in the world. The total elimination of herbicides and elimination of heavy machinery in site preparation should be a number one priority. Managing an intact forest for the sake of FOREST DWELLING species should be the goal.

Sincerely



James Norman

- 3 The context of chemical discussion within the Draft EIS is clearly stated to be 7 herbicides and 4 additives. Thus, within context the discussion of synergism is accurate and it applies only to those 11 chemicals as they are likely to interact with each other and with other chemicals present in the environment.
- To evaluate all possible synergisms is obviously impossible, so we fulfilled the NEPA requirement that effects evaluated should be "... in proportion to their significance..." (40 CFR 1502.2(a)) and that any analysis of incomplete or unavailable data be of "...information relevant to reasonably foreseeable significant adverse impacts..." (40 CFR 1502.22(b)).
- 4 We certainly agree that we should not be taking unnecessary actions in vegetation management. Please see the information presented in the analysis of alternative A. Your concern about natural diversity has been included in the content analysis of all comments received. Vegetation management as analyzed in this document is not viewed as a purely economic issue. Vegetation management as defined on page 1-2 of the Draft EIS is done for more than just the production of timber; programs such as wildlife habitat improvement, threatened and endangered species protection are examples. Without control of understory vegetation for Red-cockaded woodpecker, for example, a species could be lost entirely.
- Mitigation measure number 1 on page II-38, numbers 15, 16, and 17 on page II-41, number 12 on page II-45, and numbers 2 and 5 on page II-48 of the Draft EIS specifically require projects to protect, manage, and/or promote a variety of overstory and understory vegetation when doing vegetation management treatments regardless of method used.
- 5 On page IV-147 of the Draft EIS, under section N. Research Needs, item 5, we have identified the need for research on the effects of vegetation management on streamflows and channel erosion. See also item 17 on page IV-148 regarding sedimentation.
- 6 The assumption of thorough mixing over time is reasonable for the purposes of analysis. Further, it is clearly documented as an assumption.
- 7 Your preferences for the total elimination of herbicides and the elimination of heavy machinery on site preparation areas have been included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Nov. 5, 1984

Dear Steve McLaughlin,

Please help curb herbicides use in our public lands. We need our water quality as well as air & colorful antelope. Not clear cuts & Pine Plantations.

Conventional timbering or selective cutting makes much better use of jobs & timber. We need to be proud of our forests. We need them more than they need us.

Thank You For Your Time!

Sincerely David H. Young

Response to Comments in Letter No. 613

From: David A. Long

Comment No.

Response

1 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Air quality is principally affected by prescribed fire. Herbicides have only minimal effect. See part H of chapter IV regarding air quality effects.

2 Clearcuts and suitability of national forest lands for particular species are issues which are beyond the scope of this EIS. They are discussed in Forest Land and Resource Management Plans.

1946 Fox Hunter Rd.
Fayetteville, AR. 72701
Oct. 31, 1989

USDA Forest Service
1720 Peachtree Rd. NW
Atlanta, GA 30367

To the Forest Service:

First let me thank you for extending your comment period on the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains until Nov. 6. This extension, for personal reasons, has allowed me to read and think more about this statement of alternative management methods than I would have been able to do without the extension.

Secondly let me tell you I own 40 acres and a home in Newton County, Arkansas in the heart of the Ozark National Forest. I am currently a resident of Fayetteville, but my intent is to return to my Newton County home to live as soon as possible. The activities of the Forest Service on the surrounding Ozark Forest lands directly involve and impact my life and my individual rights as an American citizen and private landowner. The vegetation plans of the U.S. Forest Service on those forest lands will determine the quality of the air I breathe, the water I drink, the timber I use, the wildlife around me (which is important not only as a food consideration in Newton County, but as an ecological balance between all the plants and animals in the entire region), the sights I see, the quality of the school my child attends (since timber monies provide a percentage of school support income), and play a direct relation to the quality of my personal property values. To assume that there is some "greater good" to be reaped from negatively impacting individual lives with public activities such as forest conversion to tree farming is to make an illogical and incorrect assumption. This assumption is what has been made by the very plan which we have been given to comment on. Individual impact and rights make up a whole condition, and the whole condition of poisoning vegetation, species conversion, and monoculture is detrimental to all economic and ecological support systems.

Since I must address the vegetation management statement

Response to Comments in Letter No. 614

From: Frances Deane Alexander

Comment No.

Response

1 As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and as such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

specifically (in order to qualify as a viable critic) rather than commenting on the overall philosophy of forest management, let me begin with the most long-term frightening aspect of this "plan." The removal of forest with chemical means is also a method of waging suicide against self. Since all areas of a forest not only provide us oxygen and water and a uniquely evolved genetic base in flora and fauna, the erratication or interruption in the ecological function of ANY OR ALL of these systems affects all others. The Forest Service has not weighed into its evaluations the impact of the loss of individual entities of the forest niches which can in part or together be the tiny hairs holding the whole ecosystem together. Please do not behave as farmers...you are supposed to have a knowledge of forests with their multitude of species and diversity both living and of geological nature. Any assault for any excuse (in this case the growing of cheap timber to feed the mills to provide cheap lumber and pulp which rapidly becomes expensive waste due to its original low value to begin with) without basic knowledge of the consequences is creating more problems than we will ever possibly be able to rectify. The lead-out domino in this one way path lies in vegetation management. The use of herbicides as "manipulation of plants by means other than timber harvest" (to quote the VMEIS summary introduction) starts with the premise that something is wrong with the woods that needs fixing or "manipulation." The use of chemicals based on assumptions about the "acceptable risk" to water, air, thousands of other plant and animal species including microscopic ones, soil, and human response to achieve one goal (establishment of mono-culture farmland) is blatantly criminal. No one on this earth knows the individual results of this wholesale broadcasting of poisons. The individual responses will not give a total and long term analysis of what ACTUAL living organism risks is. By whom is this risk "acceptable?" How can you, the Forest Service, judge what to risk for me or on me? Your data base for quantitative risk assessment was not adequate and did not even begin to cover the majority of herbicides which are proposed. Often it seems no risk was assumed because no one wanted to study all the possible effects (which is impossible after all). Therefore, what is actually happening is that because of a human need to manage and change what took millions of years to evolve, an endless assortment of "risks" are possible because there is not evolutionary time for current living populations of plants, animals, or humans to adapt to these rapid and chemical changes. In nature what is bad for one species can lead to a dominance of another.....to a point. Even nature's parasites know better than to kill the host. Human destruction by chemical and other means of the diversity necessary to support ALL forms of life is the killing the host. Chemical companies selling to the Forest Service, and other farmers, always label their products with the disclaimer,

2

2 We certainly agree that we should not be taking unnecessary actions in vegetation management. Please see the information presented in the analysis of alternative A. Your concern about natural diversity has been included in the content analysis of all comments received. Vegetation management as analyzed in this document is not viewed as a purely economic issue. Vegetation management as defined on page I-2 of the Draft EIS is done for more than just the production of timber; programs such as wildlife habitat improvement, threatened and endangered species protection are examples. Without control of understory vegetation for Red-cockaded woodpecker, for example, a species could be lost entirely.

3 Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

4 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only ■■ a supplement to this literature search.

5 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used ■■ effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

6 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

7 Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

"use at your own risk" or "not responsible for misuse." Those phrases are vague enough to fit almost any and all circumstances, and are essentially existing to warn us, the victims, that the enemy poison is on the loose and it is somehow our fault if we are harmed for coming in contact with air, water, or soil the poison has claimed FIRST, no matter how we plead our case. This VMDEIS is not justified in its assumptions of acceptable risk where ANY chemical application is possible because of the question of just whom in the ecosystem (plant, animal or human) this must be accepted by!

5 There are data gaps in both human and wildlife risk assessments in your document as stated on pages IV-8&9, and III-66 & 67, vol 1. There is also a great need for further research to fill data gaps as stated on page IV-147, vol. 1. I firmly believe there to be huge data gaps in the development of the risk assessment portion of the VMDEIS as well as a ho-hum neglect of scientific certainty in modeling for this data collection, or at least as it was discussed in this document. All of this behavior toward risk assessment is unacceptable for this type of "forest" management.

6 In addition, the lack of analysis on potential water quality impact in geological regions containing karst areas like where I have my home is deplorable. EPA standards and historical failure to monitor and prosecute even the puny standards they have set seem to generally ignore most herbicides the USFS is planning to use. Why was 2,4-D the only one the USFS seems to have information on? And to set standards against 2,4-D must indicate there is no one at EPA old enough to remember the horrors of 2,4-D we all heard in the 1970's.

7 In addition to a lack of water considerations, there seems to be an inadequate scientific data base on what will happen to me when I try and draw breath from air containing smoke from an herbicided area. What about possible dioxins, difurans, cyanide, chlorines, etc. contained in this smoke? I recommend no burnings of timber lands that have been treated with 2,4-D or any other herbicide which may contain dioxins. I am prepared to sue the USFS to the fullest should my or my family's health be damaged from such burning or from water contamination and hereby give notice of such intention. I will not abide having our health or property stolen from us without a fight which could take a long time to resolve. As best I can tell no long term and low level toxicity studies have been done which can predict the cumulative synergistic effects of this herbicide broadcasting, and therefore any use of it is inexcusable. Just as I cannot live on the same diet as rats and rabbits, the prediction of how these poisons will affect my health from studies on those creatures are unverifiable..

5 In this document we have complied with the Council on Environmental Quality regulations on Incomplete and unavailable Information (1502.22). There have been recent changes about how to evaluate Incomplete or unavailable data. The Council on Environmental Quality issued regulations in November 1978 (40 CFR 1502.22) which required that a worst case analysis be performed to estimate risk of relevant missing information. In 1986, they modified this provision to require analysis of "...reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) using the 1986 requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are similar to the worst case analyses required under the earlier regulations. Thus, we have attempted to address both sets of regulations in our analysis.

6 Potential effects on groundwater are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.

7 No evidence exists supporting the problems which you ask us to consider. Please review chapter IV pages IV-23 through IV-25 of the Draft EIS and chapters 4 and 5 of the Risk Assessment which deal with the potential problems of brown-and-burn or other burning of treated fuel.

8 Analogy is a standard scientific method used to predict effects where there are incomplete or unavailable data. Modeling of effects from known information was done in all cases where scientific data were unavailable. Risks identified in this process are disclosed and considered in our analysis.

Neither cumulative nor synergistic effects have been reported for any of the eleven herbicides discussed. Short half-lives and rapid excretion rates for all of the herbicides suggest that neither synergism nor accumulation pose a problem. All data found in the literature and Region 8 accident reports has been included for consideration; no evidence of synergistic or cumulative effects has been discovered.

Few reasoning students of nature would believe that bioaccumulation of herbicides in all the links of the ecological chain is as inconsequential as this insufficiently assessed issue was presented in the study. And the impact of any accumulation into the biosphere adjusts, changes, redirects, or even destroys, in some cases, the linking of biodiversity and processes in the biomass (and therefore in soil composition).

I am opposed to use of any vegetation management programs which come anywhere near endangered or sensitive plant or animal habitat, and am opposed to intensive mechanical site preparation because of the negative effects it has on all surrounding habitat.

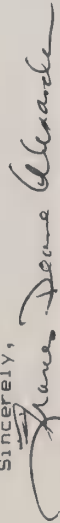
I am also sorry to see the VMDEIS fails to consider a full range of alternatives as per NEPA when it did not include an integrated pest management alternative which emphasized prevention for need of VM by allowing natural processes to work.

I support the Newton County Wildlife Assoc. modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.

I also do not believe the risks are acceptable for herbicide use on or around me or my family or you and your's, and do not believe public lands should be managed with them, nor private ones permitted to use them as well.

Thank you.

Sincerely,


Frances Deane Alexander
and my family of 4

9

We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

10

Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.

Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.

11

IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

12

Your preference for alternative Modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

9

10

11

12

Dear Sirs,
 I would like to comment on the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains. I read where you plan to use herbicides on 24,492 acres/year in Arkansas. I feel the use of herbicides poses an unacceptable risk to us and the environment and feel strongly that public land should not be managed with their use. I feel there are viable alternatives which achieve the same results with less environmental impact. I feel there has not been enough research done on the long term effects of herbicide use in our forests. I think the use of herbicides disrupts the natural ecological process in our forests.

Therefore I support, by reference, the NCUA modified

Response to Comments in Letter No. 615

From: Gary White

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.
- 3 Your preference for alternative modified D was included in the content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

alternative D with reduced total acres of vegetative management, the use of mechanical and fire methods on a low-intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards alternative A, no action.

Thanks
Gary White
Walnut Pte
Ozone OR 72854

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: Too much risk involved. Not enough research on long-term effects. The risk is unacceptable.

2 Why? V.M. DEIS did not fully analyze all potential impacts & risks to water quality - runoff, etc. on humans - i.e. cancer rates.

Comments on Alternatives:
Employ least invasive & least toxic methods.

3 I support, by reference, the NCSA Why? Modified alternative B with reduced total acres of vegetative management, the use of mechanical & fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach.

Why? Learning towards Alternative A, no action. I do not believe the risks are acceptable for herbicide use & do not believe that public lands should be managed with them (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary). Thank you!

NAME: Peggy A. Bonds
 TITLE: Forest Ranger (Organization)
 ADDRESS: Box 72
 CITY: Fartheron, OR STATE: OR ZIP CODE: 97266

Tear at perforation

Response to Comments in Letter No. 616
From: Peggy A. Bonds

Comment No.

Response

- 1 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 Appendix A and part B of chapter IV do address potential effects, such as cancer, on humans. Possible effects on water are addressed by appendix C and part B of chapter IV. Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 3 Your preference for a modified alternative D was included in content analysis of all comments received. Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method.

Dear Sir;

I am in favor of using
Alternative A. - No herbicides
or manure lotion.

Betty Sutterfield

P.O. Box 121

Forest Dept. AR
79965

Response to Comments in Letter No. 617

From: Betty Sutterfield

Comment No.

Response

1

Your preference for alternative A was included in content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

1345 W. Sugar Loaf
Heber Springs, AR 72543
November 6, 1989

Vegetation Management EIS
1720 Peachtree Road, NW
Atlanta, GA 30367-9102

Dear Sirs:

I very much appreciate the opportunity provided to the public for their input regarding vegetation management in the Ozark/Ouachita Mountains. The EIS sent to me has proved most helpful in that regard. The many references and sources of information cited for use in this report have given me much trust in the integrity of the statement.

As an average citizen of Arkansas, and former resident and native of LeFlore County, OK where much of the beauty of the Ouachitas lie, my thoughts are directed toward the well-being of the wildlife and perhaps humankind which may be adversely affected by the use of herbicides.

My preference for vegetation management is ALTERNATIVE D which would eliminate the use of herbicides. My greatest concern derived from the EIS is the lack of data available and inconsistencies regarding herbicide effects on wildlife. Until these gaps can be filled, I believe you have no choice but to go with ALTERNATIVE D.

It appears that much data is available on the effect of the various herbicides on plant life, but for the most part risk assessments on wildlife are based on assumptions drawn from tests on laboratory animals. The bioaccumulation studies indicated that the test animals' bodies at the end of some studies had not eliminated some of the herbicides. I am somewhat disturbed about the accumulation of these herbicides in the tissues of wildlife, and in the long run perhaps the homo sapien species.

Aside from the EIS, I am also worried about the Forest Services' monitoring the application and handling of the herbicides. My opinion is that these chemicals require much expertise in proper mixing techniques, rate applications for a particular geological area, and the safety procedures required to achieve the desired results. More than 25,000 acres is a lot of land to treat chemically.

I am aware tha the agricultural uses of pesticides(herbicides) are undergoing changes in their application procedures. Conservative measures--scheduling their applications at the proper growing times have resulted in use of less chemicals. I hope the Forest Service is taking into account all the latest research and development for better and safer means of managing our forests.

In the back of my mind lingers thoughts of the tragedies of the use of such herbicidal agents as Agent Orange and PCPs. I hope much forethought is going into your decisions and that an unforeseen traumatic event could have been avoided by a more thorough examination of herbicide effects on animal life.

Sincerely,

Carolyn Partain

Carolyn Partain

Response to Comments in Letter No. 618

From: Carolyn Partain

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.
Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 Evaluating wildlife and aquatic species risk using LD50 and LC50 data is the method described by EPA in the EPA Office of Pesticide Programs' document "Hazard Evaluation Division--Standard Evaluation Procedure: Ecological Risk Assessment." For the EIS we have accepted and utilized this procedure. Additionally, the herbicides do not bioaccumulate (page 8-2 of appendix A), so cumulative effects are only likely where multiple exposures are received in a short period of time. We agree that acute toxicity is a poor indicator of possible long-term health and reproductive risks to wildlife. Where available chronic and subchronic toxicity tests are reported. Gaps in the data are acknowledged and modeling of surrogate species is used to estimate potential long-term effects.
- 3 We agree. Training of employees and contractors is an integral and essential part of our program.
- 4 Please see the mitigation measures required in chapter II, section E. We are regularly implementing environmentally sound technology.
An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Vegetation Management in Bark - Quacheta mts (USFS - UMD)

- 1 I don't believe that there should be herbicide use. Don't cut hardwood trees or flowering trees because they are needed. I feel strongly that the forests should be left in its natural state.
- 2 I prefer Alternative A⁸⁸
My second choice is alternative D

ALEXA RAY
P.O. Box 4170
Collinsville, OK 74021

Response to Comments in Letter No. 619

From: Alexa Ray

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Your preference for alternative A was included in content analysis of all comments received. Note that alternative A prohibits achieving Land and Resource Management Plan objectives. Alternative D also uses no herbicides.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

COMMENTS ON DRAFT EIS VEGETATION MANAGEMENT IN THE OZARK/OUACHITA MOUNTAINS

First, I will state that these comments are both from a personal standpoint and from the standpoint of being a Forest Service employee. Therefore, the questions I raise in my comments may not be the type to answer in the final EIS but I think they are important as we begin implementation of this EIS at the project level.

SCIENTIFIC ANALYSIS

-The scientific analysis is very thorough and well done. There seems to be an honest appraisal with little bias evident. You should be congratulated. The appendices in Volume II are well done and in combination with our Pesticide Background Statements, provide an excellent scientific reference for our use of herbicides.

ALTERNATIVES

-A sufficient range of alternatives have been analyzed to make a reasoned choice. However, some groups may challenge that certain herbicides (ie 2,4-D) have been eliminated from consideration without an adequate explanation.

OTHER COMMENTS

As with most programmatic EIS's, this one is long and complex. Although I have spent a good deal of time reviewing these documents, I may have overlooked some things. Therefore, if some of my questions or comments have been answered in the text, please forgive me.

-Page II-39 - Including effects on civil rights in project level analysis is not something we have been doing. Is this really necessary?

-The EIS states that we will use low and moderate intensity prescribed fire. Is it left to each Forest to determine burning parameters to achieve these intensities? The only thing stated in the EIS related to intensity is the discussion of CSI on page II-50.

-I have a concern that the typical herbicide rates as given on page II-53 will not allow sufficient variation in application rates to achieve the desired results in many cases. How were the typical rates derived? Are they average rates from across Region 8? The Ozark/Ouachita NFs have probably been more dependent on herbicide usage than other National Forest in Region 8, therefore, an average for all of Region 8, would not likely fit our needs.

-Typical rates vary by application method without apparent reason. An example is with triclopyr amine. The typical rate for manual cut-surface is 1.0 lbs. a.i. per acre (0.33 gallons per acre) while the manual foliar broadcast rate is 1.4 lbs. a.i. per acre (0.46 gallons per acre). As far as risk is concerned, foliar spraying would have a higher risk than cut-surface treatment, but the typical rate allowed doesn't reflect this. If a herbicide is regarded to have acceptable risk with a higher risk method of treatment, then the higher rate should be allowed for treatment methods with a lower risk.

Response to Comments in Letter No. 620

From: Ray Yelverton

Comment No.

Response

- 1 The interdisciplinary team is pleased that the commenter found the environmental analysis well done and a good reference. Numerous changes have been incorporated as a result of public comments.
- 2 All data for 2,4-D, 2,4-DP, dicamba, and tebuthiuron developed during the Risk Assessment process is still present in appendix A. However, review of current and projected programs indicated no need for further analysis of these four products. They are not used or projected for use on either forest.
- 3 Under the National Environmental Policy Act, we are required to review all factors which affect or may affect the human environment. Civil rights is one such factor.
- 4 As indicated on page II-50, the critical values of the Keech-Byram Drought Code (CSI index) are developed for all major vegetation-soil-landform types on the Forest. The Forest should be providing you these critical values.
- 5 Mitigation number 4 (page 2-53, appendix A) allows for supplementary assessment of risk where typical rates are inadequate. Each such application will be justified on a site-specific basis, compared against reasonable alternative management strategies (number 1, page 2-38, appendix A). Interpolation will be the method used for MOS analysis when needed.

- Since different application methods have different typical rates, which rate was used as typical in the risk analysis? Which maximum rate was used in the risk analysis?
- The risk analysis shows a high margin of safety for most herbicides for man and wildlife. Is there anyway to interpolate the data to allow a higher typical rate while still calculating an acceptable margin of safety?
- I do not believe that typical rates are high enough to accomplish our objectives for much of the work we perform. Examples: One quart of glyphosate per acre will probably not result in adequate control for release (manual foliar spray), much less site preparation. One-third gallon of triclopyr amine per acre will not be sufficient to treat most areas for thin and release type work (manual cut-surface). This is especially true in pre-commercial thinning of densely stocked stands of shortleaf pine regeneration. The typical rates do not allow enough flexibility to accomplish our work with herbicides. The typical rates do not reflect the variation we have on our sites. Some sites will have more vegetation to treat than others. This will require more analysis of each site to determine how much herbicide each stem can receive (ie with injection) in order to cover the entire acre without exceeding typical rates. On areas with heavy competition, the treatment rate for each stem may be so low that it is ineffective.
- 6 -Page II-56. Item (19). Which herbicides are classified as soil active? There is some question as to Arsenal (Imazapyr). Also, herbicides such as triclopyr show some activity through the soil.
- 7 -Page II-57. Item (24). Which herbicides have a half-life of longer than 3 months? The half-lives for most herbicides is given as a range in the Pesticide Background Statements. Do we use the average, the shortest reported half-life, the longest reported half-life?
- 8 -I feel that more discussion should be given to economic considerations. Certainly one of the main justifications for herbicide use is the cost effectiveness. Little discussion is given to the overall economic benefits of each alternative. Would a determination of the present net benefits for each alternative be appropriate?
- 9 -I have some concern over how we will monitor the acres described to be treated. This will require some coordination between Forests.
- 10 -The preferred alternative shows a decrease in acres to be treated with herbicide from that presently occurring. Is this a realistic proposal considering the amount of acres being placed in uneven-aged management on the Ouachita NF? Also, more acres of seedtree and shelterwood cutting will be done, which are generally more dependent on herbicide use than clearcutting.
- 11 -The preferred alternative also shows a decrease in use of mechanical methods. Where is the decrease in mechanical and herbicide use derived? Is it a result of mitigation measures? Is it based on projected work in Forest Plans? Is the decrease in herbicide based on the low typical rates, which may result in herbicide use not being effective, thus requiring other methods?

6 Within the scope of our EIS, the following are considered as having meaningful levels of soil activity: hexazinone, imazapyr, picloram, and sulfometuron methyl.

7 Half life for the purpose of the mitigation is defined in table 4-9 (page 4-27, appendix A). Only tebuthiuron violates that standard.

8 Rigorous economic analysis was not desired by most people who commented. Many people suggested that if any economic analysis is done that it be a simple display of costs. Most found analyses such as those done in support of Forest Land and Resource Management Plans to be overly complex, confusing, and extremely difficult for the lay person to understand. Because this EIS incorporates the goals and objectives of plans, it necessarily incorporates plan's economic analyses, which, for those who request more detail, respond to that need.

9 On page II-46 of the Draft EIS, mitigation measure numbers 26 and 27 outline the requirements for monitoring the vegetation management program. The Regional Office is responsible for monitoring whether the program for the Ozark and Ouachita Forests approximates the acre distribution of methods and tools specified in the selected alternative.

10 It is believed that current (Draft) targets can be met. However, further shift from current management will necessitate adjustments in the tools to meet the new objectives. The primary intent of this reduction is to restrict use of herbicides to need rather than to convenience.

11 Eight alternatives are developed in response to issues and management needs, such as meeting output objectives in plans. To provide clear distinction between alternatives, several factors are varied such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. All alternatives (A through H and five not studied in detail) were developed in response to issues and management requirements. All were analyzed, discussed, and described in the same manner.

-In discussing environmental effects of mechanical methods, it would be beneficial to have more discussion on soil ripping (if data is available) considering its use and importance on the Ouachita NF. The detail given to root raking could be reduced since this method is not used.

-In summary, I think you have done an excellent job with these documents. They will be a great asset during analysis of project level vegetation management activities. However, I feel we should re-examine our typical use rates for herbicide so that use rates reflect what is needed to accomplish our objectives and provide for an acceptable margin of risk.

Roy Yelverton

Pottsville, Arkansas
P.O. Box 86
November 5, 1989

VMDEIS Comments
USDA Forest Service
1720 Peachtree Road NW
Atlanta, GA 30367

Dear Citizens,

I am so very sorry that I was unable to get in touch with you important people much sooner. I was forced to go to Mayo Clinic in Rochester Minnesota because of body problems. I began driving October 2 and only got back to Arkansas at October 23 and had several other things to do.

Arkansas is my Dear Home State but I have gone through 40 States and some other Countries and very enjoyed seeing those parts of the world but I have lived out of Arkansas no more than 15 years of my life and I really love this State.

I was born March 15, 1928 at Athens Arkansas and it was a very short place below OUACHITA NATIONAL FOREST. I began going to school at Oden and went several years at Mt. Ida. Because most people raised cotton in those years we moved to Dumris 1941 and I graduated there in 1946. I lived at Stuttgart 2 years, Fordyce 3 years but have been at Pottsville 30 years. Pottsville is in beautiful OZARK NATIONAL FOREST.

For so many years both NATIONAL FOREST had very wonderful Scenic Drives in early Spring for lots of CITIZENS from many states who loved seeing DOGWOOD and REDBUDS and in the fall as great was the beautiful color leaves of trees.

For lots of years, how very sad it has been for me and many, many other people since ALL trees are cut down and ONLY PINE trees are allowed to grow up. All others are burned, poisoned and how can the wildlife animals live; Deers, turkeys, bears, raccoons rabbits, rats, squirrels and lots of beautiful birds live without food for them that has also killed out? How can people be able to enjoy the great hunting like many other years? I am very afraid that a serious risk of headaches from breathing vapors all day and canxk on humans and wildlifes. Many people believe furniture will never be anything like as good when there is only PINE but not OAK and other hard trees.

Response to Comments in Letter No. 621

From: Alma Morton

Comment No.

Response

1 We appreciate your comments.

As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

November 5, 1989
Page 2

2 People who own land could cut all their trees and only raise pine if they care for it, but I do not believe that should be done for all people of the nation forest. I do not believe the risks are acceptable for herbicide use and do NOT believe that public lands should be managed with them. PLEASE STOP DESTROYING WONDERFUL ARKANSAS.

In 1984 my husband and I spent six weeks going through 12 states and we also saw many simulate pretty places destroyed. Those that are for the Nation, PLEASE STOP THESE SAD ACTIONS.

God Bless you and Best Wishes Always.

Very Sincerely,

Alma Morton

Alma Morton

2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

Route 1, Box 270-C
Mena, AR 71953
November 6, 1989

U. S. Forest Service
220 Honnbeck
Mena, AR 71953

Re: Vegetation Management

Gentlemen:

We wish to protest the vegetation management plan proposed by the Forest Service in your Proposal F (50,000 acres burning and 24,000 acres herbicide). Both burning and herbicide use should be reduced drastically to prevent global warming for future generations.

How long can our environment survive such mis-management?

Very truly yours,

Edward L. Copes

Edward L. Copes

CC: Senator Dale Bumpers
Senator David Pryor

1

Response to Comments in Letter No. 622

From: Edward L. Copes

Comment No.

Response

1 Part H of chapter IV (pages IV-116 through IV-123 of the Draft EIS) contains a fairly detailed discussion of potential effects on air quality including global effects. Chapter IV discusses in depth the positive and negative effects of prescribed fire.

Mitigation measures on Draft EIS pages II-46 to II-51 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Ozark/Ouachita Mountains. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-116 to IV-124).

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Paul Imrie
HCR 62 Box 393
Deer 72628
Arkansas

Dear Mr. McQuisdale

Thank you for this opportunity to respond to the VMEIS and the extension period.

My first disappointment was in finding a restriction on responses to the silvicultural systems and harvest methods used. (I-12,6.) The way we manage and harvest our timber is critical in determining vegetation management and should be addressed in the same document.

I believe the alternatives do not adequately cover a full range of viable alternatives. There is no alternative that uses goats and other biological control methods or one which uses only very limited herbicides and reduced prescribed fire.

I believe there are far too many data gaps in the herbicide information used to justify their widespread use. Many of the gaps are in cancer and mutagenicity. These effects will be very slow to appear in the public or animal population and very hard to then determine ^{cause and} ~~effect~~ ~~cause~~ ~~effect~~. I personally was poisoned ~~through~~ ~~cutting~~ cutting

Response to Comments in Letter No. 623

From: Paul Imrie

Comment No.

Response

1 As indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and as such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

2 On pages II-37 and II-38 of the Draft EIS we clearly define and specify which biological methods were considered. We indicate that only grazing by domestic livestock, which does include goats, is considered viable at this time. When other biological methods are determined to be safe, effective, and successful at operational levels, they will be evaluated for use in the vegetation management program. As for the restricted herbicide and prescribed fire alternative, alternative B discloses the effects of what you suggest.

3 While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2/ blackberries in 1973 and realize that animals would do the same as I but not recognise the danger and continue eating contaminated berries. This poisoning has affected me for at least the last 16 years.

4 Their is no information on bioaccumulation or bio combination for most herbicides which can alter translocation and effect of herbicides on non target species.

5 The effects of herbicides on Mycorrhizae and other soil organisms is not addressed. Many of these organisms have a symbiotic relationship with trees and could adversely affect the forest as a whole for generations to come.

6 Another issue insufficiently addressed is burning either prescribed fire or fire woods used in heat or cook stoves. The altering of chemicals by heat can produce unknown results and needs further study and more caution.

7 I believe the need for herbicides could be drastically reduced with a different management and harvest technique. If areas to be cut were prepared in advance ~~of~~ harvest

4 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

Vegetation management is necessary to accomplish many resource management goals and objectives. Environmental conditions at the project level will determine the specific need for, and amount of, vegetation management to be done. Target plants, as well as some individual non-target plants, are injured or killed by all vegetation management methods. However, mitigation measures such as number 17 on page II-41 of the Draft EIS requires that projects be designed in such a manner so as to protect and manage for a variety of species.

Potential for causing adverse effects on non-target species is greatest when herbicides are broadcast on an area, which occurs with some ground application methods as well as aerial. These potential adverse effects are limited by mitigations covering choice of herbicides; application rates, methods, and timing; and use of buffers (Draft EIS pages II-52 to II-59).

5 The effects of herbicides on soil organisms are discussed in appendix C of the Draft EIS, pages C-9 and C-10, as well as in chapter IV of the Draft EIS, page IV-95.

The consensus among scientists that have studied the topic is that use of herbicides at our low rates (mitigation measure number 4, page II-53 Draft EIS) does not yield high enough concentrations to negatively affect soil microflora (appendix C, page C-10). The evaluated herbicides are not general biocides but are formulated specifically to affect the more complex metabolic processes of higher plants which are generally absent in microflora. Data presented on page II-95-96 (Draft EIS) further suggests that soil nutrients are neither destroyed nor lost in a significant amount when herbicides are used. Chapters 6-8 of the Risk Assessment (appendix A) indicate low risk to animal populations and chapter II includes mitigation measures which further reduce even that risk.

6 With respect to smoke produced from prescribed fire or from brown-and-burn projects, we feel that adequate discussions have been presented to determine effects. See discussions on pages IV-23 to IV-25 and IV-116 to IV-123 of the Draft EIS.

7 The Draft EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Ozark and Ouachita Mountains methods other than herbicides are projected to use 75 percent of the total acres treated in the preferred alternative F in the Draft EIS (page II-12). The EIS simply shows that the preferred alternative, with its mitigations and inherent constraints, would improve treatment effectiveness with minimal adverse impacts. Furthermore, the determination of the most appropriate tool for a project must be made at the project level based on a site-specific analysis. A reasonable range of alternative methods, including the use of methods which do not involve herbicides, will be examined and evaluated, and IPM principles must be incorporated (Draft EIS pages II-38-41).

See also response to comment 1 of this letter. Additionally, see response to comment 6 of Letter No. 633.

3/ much of the need for herbicide control would be eliminated. Seedlings can be established and unwanted species controlled better before harvest with an overstory for protection and light restriction. Cutting unwanted stems at waist height would be more effective in killing them especially with overstory light restrictions. The issue of type of silviculture treatment and harvest techniques needs to be addressed and used to reduce dependence on herbicides.

8 The issue of translocation of herbicides by trees needs more research. Root systems are often interlocked and herbicides treatment of one stem may affect others of even different species.

9 The use of manual control instead of herbicides would keep more money in the local counties and provide much needed jobs.

The Ozarks and Ouachita mountains are a centrally secure biological oasis with a unique hydrological-geological infrastructure. The fractured substrate make movement of water and contaminants rapid and unpredictable. When applied in one place herbicides may

8 There is real potential for movement of herbicides through root grafts into potentially non-target vegetation. Several species of oak are particularly susceptible to this damage. Rarely is mortality of a non-target the direct result since the amount of herbicide which translocates is generally insufficient to kill an untreated tree. This concern is dealt with during site-specific analysis.

9 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

10 Data in the Risk Assessment which reviewed percolation of herbicides through Astatula sand to a perched water table (a more rapid percolation than in the Ozarks) does not support the conclusion presented here.

4/ reappears unexpected somewhere else not necessarily down stream.

The Ozarks has served as an island for plant and animal species from the North, East, South and west for eons and has protected it's inhabitants from climatic upheaval in the past. It has also provided an interbreeding ground for species in their search for survival and improvement. It is the only place in the US. where eastern and western species can mingle and cross in a natural biotic environment.

We are a small part of the Southern region with a unique and valuable mix of species and geologic structure and should be treated more as a fragile gene pool and not lumped with the rest of the region, most of which is more simplistic in topology and species mix. The Ozark region should be treated more as a control and test ground for low impact small technology, species specific treatment with adequate research into it's unique and rare species mix

Recognizing the uniqueness of the Ozark/Ouachita area, we have isolated analysis of vegetation management tools in this separate EIS. However, the tool mix in the preferred alternative responds to programs proposed in the Forest Plans of the forests; it does not determine these programs. Comments about management goals and objectives are dealt with in the Plan preparation process and are outside the scope of this EIS.

623

5/ I would support an altered alternative D similar to NCWAs with less fire and timber harvest and more emphasis on single tree selection and research and evaluation of low impact harvesting techniques.


12

I also think a seminar should be held in an area similar to the one held in Rolla Mo on November 2. I was unable to attend but feel it could have been valuable in formulating my own response and in educating the forestry personnel on Alternative to herbicides.

Non Herbicide Alternatives for Vegetation Mgt. Sponsored by Mark Twain National Forest and the Missouri Department of Conservation.

Thank you again for this opportunity to respond as a sincere steward of our national lands

Sincerely


Paul I. Mirec
HCR 62 Box 893

Deer Ar 72628

12

Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2008 Cherrywood
Denton, TX 76201
November 5, 1989

Ouachita/Ozark VMDEIS
U. S. Forest Service
1720 Peachtree Road, N. W.
Atlanta, GA 30387

Dear Sirs:

After reviewing and commenting on the LRP for the Ouachita National Forest, I was surprised to learn that there was a separate Vegetation Management Draft Environmental Impact Statement. It seems inappropriate to separate forest management into two plans when they are so interrelated.

I support a modified Alternative D as proposed by the Ouachita Watch League ("Flexible Forestry" VMDEIS Modified Option D). This includes the following:

1. Maintain no more than 25% of the forest in single aged management. This includes clearcutting, shelterwood and seed tree.
2. No logging for any reason in watercourse protection zones.
3. For vegetation or pest management, use hand, mechanical or biological methods - not herbicides.
4. Provide a poison-free trail corridor.
5. No burns for "wildlife improvement" plots. These burns suppress hardwoods which are good for wildlife in the long-term.
6. Maintain natural diversity in existing areas and return stands that have been manipulated into single species to mixed stands.
7. Do not intervene in habitats that support endangered plant or animal species.
8. Assess the impact of any management action on water quantity and quality.

Please send me a copy of the Final Vegetation Management EIS and add my name to the EIS mailing list.

Sincerely,

Linda K. Manduley

Linda K. Manduley

Response to Comments in Letter No. 624

From: Linda K. Manduley

Comment No.	Response
1	Standards and guides for harvest systems and logging operations are not within the scope of this EIS. They are discussed in Forest Land and Resource Management Plans.
2	In many situations mechanical and hand method are recommended and proposed to be used. Some types of biological methods may be appropriate after researched and developed.
3	See page II-12 of the Draft EIS. Herbicides are not being proposed for use in trail maintenance in the preferred alternative.
4	See pages IV-30 through IV-45 and pages IV-75 through IV-79 regarding effects from prescribed fire.
5	Suitability of a site to grow particular species is not within the scope of this EIS. It is discussed in Forest Land and Resource Management Plans.
6	A biological evaluation is required for actions involving threatened, endangered, proposed, and sensitive animal and plant species. Some species require intervention while others do not.
7	Appendices B and C contain extensive information on possible water quality effects. See also part G of chapter IV. Additionally, numerous mitigation measures in chapter II seek to alleviate many potential effects on water.

November 6, 1989

Mr. Steve McCorquodale
Vegetation Management DEIS Comments
USDA Forest Service
1770 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. McCorquodale:

On behalf of the Defenders of the Ouachita Forest, a Mena, Arkansas based organization comprised of more than 250 members, the following comments are offered on your Vegetation Management Draft Environmental Impact Statement (DEIS) for the Ozark/Ouachita Mountains.

First of all, as a member organization of the Ouachita Watch League (O.W.L.) coalition, our position, like O.W.L.'s calls for NO HERBICIDE USE in the Ouachita National Forest nor the Ozark National Forest for any reason, period. Attached is a listing of substantive response comments to your VMDEIS all of which we would like to incorporate into this letter and all of which we subscribe to. However, we have additional comments, many of which overlap, that have given us cause for concern and which we would like to see addressed in your final plan. They are as follows:

1 FORMAT - The fact that the Vegetation Management DEIS and the Ouachita National Forest Draft LRMP are separate makes the information contained in both difficult, if not impossible to correlate between the two. We believe that the information on Vegetation Management should be incorporated into the Land Resource Management Plan for each specific forest.

2 WORKER SAFETY AND RESPONSIBILITY - The VMDEIS seeks to assure the public that the herbicides proposed for use are completely safe when applied in accordance with the EIS; however, it is virtually impossible to claim that these herbicides will, indeed, be applied in the manner and with the appropriate safety precautions outlined by the DEIS and the manufacturer. Such claims are only as good as the workers who apply them. Also the costs of supervision and training involved for each worker, some of whom cannot read or even speak English would definitely be cost prohibitive. Human nature dictates that these workers are going to do whatever is easiest, even to the point of dumping unused herbicides into streams, as one example. Human error is also a consideration. We feel relatively certain that each and every Forest Service employee and/or contractor is not going to read your VMDEIS. Specific examples of past worker carelessness are numerous. Another consideration is the fact that the probability is strong that workers are not taught identification of sensitive plant species and could destroy them without knowing it. We also question the intelligence of persons who would voluntarily involve themselves in the occupation of herbicide application. If they had adequately studied the issues involved in herbicide use, they most likely would not be involved in this occupation.

Response to Comments in Letter No. 625

From: Sherry Balkenhol, Defenders of the Ouachita Forest

Comment No.

Response

1

Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Generally, this process concludes with an amendment to the Plan. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan, policy statement, or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS (40 CFR 1501.7(3)) and have not included several issues which were discussed in Forest Land and Resource Management Plans.

We specify on page I-8 in the Draft EIS that depending on which alternative is selected, the Forest Plans may need to be amended to include methods and tools allowed and mitigation measures required.

2 We understand your skepticism but the EIS does not claim that herbicides are safe. The analyses evaluates risks associated with herbicide use and prescribes rules (mitigation measures) for proper use. As to operational problems, while we disagree with the pessimism expressed, the concern is addressed through the mandatory nature of Forest Land and Resource Management Plans.

Although all Forest Service personnel are not trained as botanists or biologists capable of recognizing threatened, endangered, proposed, or sensitive species, they are trained to seek help from appropriate sources such as Forest Service specialists and State Heritage personnel; and on-the-ground plant identification training sessions are conducted through the Regional Botanist.

3 ECONOMIC ANALYSIS - The economic analysis did not adequately address the costs of clean-up operations in case of accidental spillage of chemicals. Since the manufacturers of these chemicals disclaim responsibility, the taxpayers would be the ones to pay for it, and these potential costs should be considered as part of the cost of using the chemicals.

4 WETLANDS - In Chapter 3, Page III-17, we challenge the statement that there are only 20 acres of wetlands. The VMDEIS needs a more accurate estimate of wetlands in order to protect them properly and due to their importance to wildlife species.

5 COSTS OF MANUAL METHODS vs. CHEMICAL METHODS - Since the DEIS (Page IV-129) shows manual methods of vegetation management to be more cost effective than chemical methods and create more local jobs, we feel that manual methods should be used more extensively.

6 HERBACEOUS WEED CONTROL - In the Appendices Page 2-1, it is stated that "Herbicides are used in site preparation to reduce the amount of undesirable vegetation available to compete with the desirable hardwoods or pines, while minimizing soil disturbance on the site." and "Release, precommercial thinning and herbaceous weed control reduce competition, thereby improving the survival, growth and health of desirable trees." We can find no references or substantiated studies cited that confirm these statements that herbicides improve the growth of trees.

7 VALIDITY OF SOURCES - We question the validity of sources of references when those sources and references used come from the manufacturer of that specific chemical or from the EPA itself (See Acceptable Risk below). A variety of sources and references even if they do not agree with the chemical manufacturer or the EPA should also be researched more fully. In particular, we would recommend information from sources not biased by economic concern such as the Northwest Coalition for Alternatives to Pesticides (NCAP), which has worked extensively with U.S. Forest Service personnel in Region 6 to help draft an EIS on vegetation management in that region. In addition, NCAP publishes "A Guide for Federal Agencies and Citizens for Preparing an Excellent Pesticide Environmental Impact Statement". This publication addresses many of the concerns we share, particularly in preparing an EIS that is not in violation of the National Environmental Policy Act. We would like to suggest that you contact them to obtain a copy at Northwest Coalition for Alternatives to Pesticides, P. O. Box 1393, Eugene, Oregon 97440.

8 ACCEPTABLE RISK - In the question of "acceptable risk", what is not known is often as important as what is known. Computer modelling to project risk assumptions may be acceptable for someone who has control over whether he takes those risks, but not when the control of those risks is "out of his hands" or he has no knowledge that he is taking a risk. Since the choice to use herbicides is based on scientific and political concerns as well as public concern, the public actually has no definitive control over the risks of herbicide use to his quality of life. In fact, in an article entitled "Is EPA Registration a Guarantee of Pesticide Safety?" in the Spring 1986 issue of the "Journal of Pesticide Reform", "Even with the best of intentions, sound procedures, and adequate staff, registration

3 There is no legitimate way to project the possible costs of a potential accident which should not occur if proper precautions are taken.

4 Please see our response to comment 10 of letter 552.

5 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current Congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels may not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

6 The cited page is from the Human and Wildlife Health Risk Assessment (appendix A) and is presented merely as background for the reader to help understand the applications. It is not an analysis of tool effectiveness. Pages IV-53 to IV-55 of the Draft EIS discusses the growth response from use of herbicides. Many research studies are detailed in these pages. See also appendix C, page 8.

7 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search. Draft EIS, pages V-7 and V-8, list nearly 90 people with a variety of backgrounds who were directly involved in scientific review.

We also stated in the Draft EIS on page IV-147 that none of the missing information would prevent evaluation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.

8 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

November 6, 1989
 VMDEIS Comments
 Page 3

would not mean that a pesticide is safe. There is a strong economic component in the decision-making process, indeed in the law, which guarantees that the registration process is a matter of weighing health and environmental hazards against "social" and economic gains. In practice, the economic gain component is based on projections by chemical companies and users who do not subscribe to or investigate integrated pest management of nonchemical alternatives. As John Bonine, University of Oregon environmental law professor describes the registration process, "If the costs of using the pesticide are considered to be 90 cents worth of cancer and the benefits are estimated at a dollar's worth of profits, the pesticide is registered."

"Ultimately, however, the adverse health and environmental effects of pesticides can be avoided only by not using pesticides. Pesticides are, as California law describes them, 'economic poisons.' Whether they are in reality economic to use is debatable, that they are poisonous is not."

9 GRAZING - We do not feel that grazing of domestic animals should be allowed in our National Forests due to the potential disturbance to the natural ecosystem.

SPECIFIC HERBICIDES - Following are several of the many questions and questionable attributes of some of the specific herbicides proposed for use in the Ozarks and Ouachitas:

FOSAMINE - In the Pacific Northwest (Region 6) of the U.S. Forest Service, the Forest Service FEIS Record of Decision, dated November 1988, three specific herbicides of the 16 evaluated in this EIS risk assessment will not be used. Fosamine is one of those rejected "because there is insufficient information for conducting a full toxicological evaluation."

10 In the California Department of Food and Agriculture Summary of Toxicology Data, dated August 6, 1986, for Fosamine showed data gaps for chronic rat, chronic dog, onco mouse, and terato rabbit, with no studies on file, while terato rat and chromosome tests showed possible adverse effects. In your Appendices, Page 3-32, you say "fosamine caused chromosome aberrations in activated and non-activated in vitro cytogenetic assays of Chinese hamster ovary cells." However you still considered "Fosamine to be non-mutagenic for this risk assessment." Based on the data gaps and the questionable and possible adverse effects, and in light of the fact that Region 6 of the U.S. Forest Service has eliminated Fosamine usage, the use of Fosamine should also be eliminated from the Ozark/Ouachitas.

GLYPHOSATE - According to "Ecological and Public Health Implications Associated with the Use of Glyphosate Herbicides," by David H. Monroe, M.S.P.H., Ph.D., Consultant in Environmental Toxicology and Public Health, in his assessment of risks associated with Glyphosate Herbicide Use states that "Due to the general lack of complete data, it is impossible to estimate the magnitude of the risks to the environment and human health posed by glyphosate herbicide use. The most critical data gap is the near total absence of toxicologic and environmental fate studies on the formulation of Roundup, Vision, and Accord as used in field applications. There is substantial evidence that the surfactant used in glyphosate formulations is substantially more toxic than the active ingredient in both aquatic species and humans (Folmar et al., 1979; Michell et al., 1987; Sawada et al., 1988; Servizi et al., 1987). Another important factor is the decomposition of glyphosate leading to the production of formaldehyde (Lund-Hole and Friestad, 1986; and Servizi et

9 The decision whether or not to have a grazing program is outside the scope of this EIS (see activities to be addressed on pages I-1 and I-2 of the Draft EIS). However, the use of livestock as a biological method of control was evaluated. In the preferred alternative in the Draft EIS, the use of biological methods is not available.

10 Fosamine usage is evaluated for rights-of-way maintenance, where its trimming effect is useful. It is essentially an "incidental use" herbicide insofar as only 100 pounds active ingredient is used Regionwide annually. Within these constraints, the data gaps were not found to pose a significant potential risk in the Southern Region.

11 The cited paper by David Monroe is an unpublished manuscript. We found adequate toxicological and environmental fate data to support scientific analysis of glyphosate. Data presented in the EIS confirm that the surfactant in Roundup is more toxic than is the glyphosate - but that there is a simple additive [not synergistic] relationship in the formulation. No data has been presented to support the speculation that formaldehyde is a breakdown product of glyphosate and simple calculations show that at our use rates, the worst-case would allow formation of significantly less formaldehyde than is the normal body burden.

al., 1977), a chemical considered to be a carcinogenic risk to humans by the United States Consumer Product Safety Commission and National Toxicology Program (1980) as well as a known sensitizing agent and neurotoxin in humans at low exposure levels (Gammage and Gupta, 1984; Kilburn and Warshaw, 1987)."

"Due to the potential for spray drift, accidental dumping, runoff in rainwater, and long distance aquatic transport of the glyphosate herbicides, combined with their noted toxicity to developing fish, the use of these herbicides poses a substantial risk to the salmon fisheries of the Northwest Region." and "The U.S. Environmental Protection Agency concludes that glyphosate herbicides pose hazards to endangered plant species (USEPA, 1986)."

HEXAZINONE - Among the hazards of hexazinone, it is corrosive and causes irreversible eye damage, according to the EPA, who also requires the labelling hazard statement "Do not graze within 30 days after treatment." This, of course, raises the question of non-domestic species who graze in the forest and cannot read product labelling.

Hexazinone is also suspected of a high degree of leaching into groundwater.

PICLORAM - Picloram may have a half life in soil, depending on soil type, temperature and moisture of more than four years, according to the National Research Council of Canada (1974). More than four years is a great deal longer than the 100 days indicated in the DEIS (Page II-31).

Since Picloram is highly soluble in water and leaches, according to the EPA, it is in the category of highest priority for monitoring by the EPA as it conducts a national survey of groundwater contaminants. In the Health Advisory of the Office of Drinking Water (EPA), it is noted that one study (Storet, 1988) found Picloram in "420 of 744 surface water samples analyzed and 3 of 64 ground water samples."

The EPA, in its "Pesticide Fact Sheets" for Picloram, dated March 31, 1985 and October 24, 1988 makes repeated references to Picloram's potential as a groundwater contaminant, as well as references to the fact that it has been found to be slightly to moderately toxic to freshwater fish and slightly toxic to freshwater invertebrates.

In addition to persistence in the environment, groundwater contamination and toxicity to fish, other questions remain concerning damage to nontarget plants, lack of any acceptable chronic effects testing, adverse effects on humans not detectable in animal studies, etc.

TRICLOPYR - The "Signal Word" listed in the 1988 "Farm Chemicals Handbook" for Triclopyr is "Danger or Caution." It goes on to list "Handling and Storage Cautions" as "Keep out of reach of children. Do not get in eyes, on skin, or on clothing; harmful if swallowed. Avoid contamination of food. Wash thoroughly after handling." The Agricultural Chemicals - Book II - Herbicides by W. T. Thompson, 1986-87 revision states "Avoid drift. Do not plant conifer seedlings for 6 months after application. Do not graze treated areas. Do not use in irrigation

Label requires "...face shield or goggles..." to protect eyes. Mitigation number 11 on page II-55 of the Draft EIS and the law require that this labeling be followed.

The cited grazing restriction is not on current labeling for Velpar L. Leaching characteristics of hexazinone are discussed in the Draft EIS on pages IV-101 to IV-105.

We discuss this characteristic of picloram. The only use of picloram actually anticipated in this EIS is to control kudzu, an exotic, invasive weed.

ditches."

And finally, from a June 5, 1987 paper entitled "Triclopyr", by Mary H. O'Brien of the Northwest Coalition for Alternatives to Pesticides, "The upshot? Triclopyr can persist in soil and water, readily runs off or leaches through soil in water, can be extremely toxic to fish, is essentially an unknown in terms of effects on wildlife in the field. . .and poses major questions regarding contaminants, metabolites, and secret ingredients. The use of triclopyr as a broad-spectrum herbicide must be questioned because of its potential to persist and wander through the environment."

SULFOMETURON METHYL - The primary problem associated with Sulfometuron Methyl is its ability to cause damage to nontarget plants by physical drift. In an article in the December 6, 1985 Salem, Oregon "Capital Press", entitled "Farmers file lawsuit. . . Herbicide blamed for crop damage," farmers filed approximately 50 complaints and one filed a \$1 Million lawsuit claiming that the spraying of the herbicide Oust along 770 miles of Franklin Co. roadway caused considerable damage, death and malformations to crops in nearby fields. The lawsuit claimed that "The conduct of duPont in the development, testing, labeling, marketing, distribution and sale of 'Oust' is violative of the Consumer Protection Act."

According to Stewart Turner, an Agronomy Consultant from Bainbridge Island, Washington in a lecture on Latent Transmission of Pesticides at the Oregon Vegetation Management Association Conference on October 26, 1988, with sulfonylureas at one third to one half ounce/acre, damage can be done over a mile away. Numerous examples were cited documenting the extreme phytotoxicity of Sulfometuron Methyl.

INERT INGREDIENTS - The EPA does not require testing of the so-called inert ingredients in the formulation of pesticides (which includes herbicides). These "inert" ingredients are considered trade secrets and are not available for public or Forest Service scrutiny. Of 1200 registered inert ingredients that can be used in pesticides, 700 to 800 are of unknown toxicity and 275 are considered harmless. While the Forest Service claims to only consider formulations containing "inerts of unknown toxicity" or inerts of minimal concern", this information was gathered from the EPA. Two major problems exist with "inert ingredients". First of all, according to "The Journal of Pesticide Reform", "The EPA may not know what inerts are in a pesticide because 'much' of the information on file does not identify the exact chemical makeup of the inerts or actives or important impurities." Secondly, "inert" ingredients are allowed to contain extremely toxic and even banned chemicals such as benzene, pentachlorophenol, carbon tetrachloride, hexachlorophene (which contains TCDD, or dioxin), formaldehyde, asbestos and DDT, to name a few. So, once again, it appears that the EPA cannot be relied upon to protect the environment, and it also appears that the U.S. Forest Service relies too heavily on EPA data.

14

While reviewed during the preparation of this EIS, the cited work by Mary O'Brien was not published in a scientific journal with appropriate scientific review. Certain information in that article is in error or inappropriate to discussion of this document. Triclopyr is a relatively immobile herbicide and does not "...readily..." run off, percolate or leach in soil (Draft EIS, pages IV-90 and IV-101). Triclopyr is not "...extremely toxic to fish..." Although the ester form, in an accident, may pose significant risk (table 8-33, appendix A) in the typical application scenario this herbicide poses only low risk to fish and aquatic animals (Draft EIS, pages IV-102 and IV-103). Inert ingredients are disclosed in table 3-7 in appendix A. Contaminants and metabolites of concern are identified and discussed in the EIS.

15

We are familiar with the facts in the described situation. However, mitigation measures #4 (page II-53, Draft EIS), #5 (page II-54, Draft EIS), #7 (page II-54, Draft EIS), #8 (page II-54, Draft EIS), and others are designed to protect off-site and non-target application of herbicides within Forest Service programs.

16

Please see table 3-7 (appendix A) and the associated discussion beginning on page 3-45. EPA is now requiring data on inerts. Only kerosene was found to be of concern, and rates of application of kerosene (in one formulated product) were within the tolerance of a MOS ≥ 100 (table 5-17, appendix A).

November 6, 1989
VMDEIS Comments
Page 6

17 **PRESCRIBED BURNS** - We would discourage the use of prescribed burns except on a very low intensity basis, primarily due to the impacts of destruction of air quality, health risks associated with the burning of vegetation that has been treated with herbicides and the problems of controlling fires in the National Forest.

18 **MECHANICAL METHODS** - We support mechanical methods on a Low Intensity Basis only.

19 **ALTERNATIVES** - As is noted on the attached listing of Substantive Responses, we would support a modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action. Herbicides should be totally eliminated.

In conclusion, the VMDEIS leaves many unanswered questions, unsubstantiated assumptions and an apparent bias towards the use of chemical herbicides. Any evaluation of the potential health risks of herbicides depends on the person or organization who is doing the evaluation. The data presented is both contradictory and conflicting with other research data, not cited in the VMDEIS in many cases. The burden of proof ultimately rests with the U.S. Forest Service to prove beyond a shadow of a doubt that herbicides proposed for use on public lands are safe. If information is unavailable, tests have not been done, etc. then herbicide use may never be justified. The U.S. Forest Service is supposed to be the caretaker of our public lands. We would appreciate a more gentle, environmentally sound approach to these ends.

Sincerely,

*Sperry Belknap, Chairman
Defenders of the Ouachita Forest*

Defenders of the Ouachita Forest
P. O. Box 242
Mena, Arkansas 71953

17

The preferred alternative allows for the use of low to moderate intensity burns. The mitigation measures for the use of prescribed fire, on pages II-46 to II-51 of the Draft EIS, protect worker and public safety as well as other resources including soil and water, vegetation, air quality, wildlife habitat, etc. The effects you mention are minimal (human health, Draft EIS, pages IV-23 to IV-25), (air quality, Draft EIS, page IV-122), (and escaped fires, Draft EIS, page IV-123).

Please also see response to comment number 4, Letter No. 245.

18

The preferred alternative allows for the use of low to moderate soil disturbance tools. The mitigation measures for the use of mechanical equipment on pages II-51 and II-52 of the Draft EIS minimize impacts to soil and water resources (Draft EIS, page IV-141).

19

Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures (see preface to volume I, Final EIS) especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Dear Forest Service Members,

11/5/89

- 1 I am writing to tell you that I oppose any use of herbicides in the Ouachita and Ozark National Forests. These chemicals pose an unknown risk to humans and wildlife and could contaminate water supplies. How many times have we discovered in the past that we are poisoning the earth (e.g. DDT)? I believe we need not worry about nuclear war as humans will ruin their environment first. Please put a stop to this.

Sincerely,

Susan E. Fargue 120 So. Maple Little Rock, AR 72205

Response to Comments in Letter No. 626

From: Susan E. Fargue

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received.
- 2 Appendix A contains a Risk Assessment which deals with unknown effects of herbicides on humans and wildlife in accordance with the Council on Environmental Quality Regulations, 40 CFR 1502.22. Potential effects on water are discussed in appendix C and in part G of chapter IV.
Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

Quachita Watch League Public Comment

Statement of Interest
 Quachita Watch League is a coalition of organizations interested in the wise management of the Quachita and Ozark National Forests. Its members and affiliates include, but are not limited to, the following:

Arbuckle Sports Center
 Arkansas Chapter, Sierra Club
 Arkansas Quartz Miners Association
 "Bluebird News"
 Concerned Citizens of Hot Springs
 Dallas Downriver Club
 Dallas Regional Group, Sierra Club
 Defenders of the Quachita Forest
 Defenders of Wildlife
 Friends of the Ozark Forest
 Greater Fort Worth Sierra Club
 In Defense of Animals
 Indian Inter-Tribal Association of Arkansas
 Indian Nations Audubon Society
 Kashache Chapter, Louisiana Sierra Club
 Little Rock Group, Sierra Club
 Lone Star Chapter, Sierra Club
 Medicine Mountain Massage School
 Mens Nature Club

Moon Lodge
 Native Americans for a Clean Environment
 Newton County Wildlife Association
 Norman Group, Sierra Club
 Oklahoma Chapter, Sierra Club
 Ouachita Garden Club
 Ouachita Indian Tribes
 Ounce of Prevention Wellness Center
 Ozark Headwaters Group, Sierra Club
 Ozark Organic Growers Association
 People for the Ethical Treatment of Animals
 Project Lighthawk
 Southeastern Oklahoma Sportsmen's Association
 Southern Plains Region Conservation Committee, Sierra Club
 Stillwater Group, Sierra Club
 Texas Committee on Natural Resources
 Tulsa Group, Sierra Club
 Tulsa Audubon Society
 The Wilderness Society
 Yell County Wildlife Association

We, OWL, the foregoing organizations, our memberships and/or individuals, urge adoption of the following US Forest Service policies regarding vegetation management:

1 OWL objects to the bifurcation of mutually interdependent planning factors herein, namely separation of land use and vegetation management. The separation of these intrinsically related subjects fails to meet the requirements of NEPA (unless a no-manipulation vegetation management alternative is selected, and land use is such that no significant modification of composition or volume of the understory occurs; in such a Plan, separation of vegetation management such that it is not addressed concurrent with Land Use alternatives is moot.)

2 OWL concurs with the comment of Jerry Williams, Concerned Citizens of Hot Springs, that bifurcation of planning factors constitutes an actionable violation of NEPA. OWL agrees with the Comment of Newton County Wildlife Association, that any meaningful Vegetation Management planning process must necessarily include singletree and small group selection as an alternative to use of clearcutting and herbicides. OWL agrees that timber harvesting constitutes the single most impactful vegetation management technique and should be addressed as such, rather than being merely "bifurcated" to the status of a foregone conclusion. FWSMA is being violated where, as here, crucial aspects of the Plan are presumed and

Response to Comments in Letter No. 633

From: Quachita Watch League

Comment No.

Response

1 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Generally, this process concludes with an amendment to the Plan. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done.

This EIS is used to make decisions on how the vegetation management program on Ozark/Quachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS (40 CFR 1501.7(3)) and have not included several issues which were discussed in Forest Land and Resource Management Plans. We do not believe that repeating those issues and associated analyses here, when they are already available in another document, to aid the decisionmaker in making a reasoned choice among alternatives is necessary.

2 We disagree. In chapter I, Purpose and Need, we clearly indicate the activities to be addressed (page I-1 of the Draft EIS) and we clearly indicate that silvicultural systems and timber harvest methods are not addressed (page I-2 of the EIS). On page I-12 of the Draft EIS we discuss why these topics are not analyzed. We do provide a general discussion of harvest systems and vegetation management on page I-7 and I-8 of the Draft EIS. However, each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are expected to be used, based on each forest's unique mixture of forest resources and public needs. The public has had broad opportunities to comment on these Forest Plans. The issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans.

- not afforded open public debate. OWL believes that USFS must afford the public opportunity to comment upon the LAMP in light of USFS classification of timber harvesting alternatives as a Land Use technique rather than a Vegetation Management technique. Likewise, pine plantation for timber production seems more like vegetation management, because it appears to be replacing native forest composition with genetically-improved monoculture. But apparently, the comment period for this issue concluded three months ago.
- 3. OWL agrees with the Comment of Jerry Williams that absent site-specific studies, environmental analysis under NEPA is impossible. Newton County Wildlife Association also addresses OWL's concern over whether the analysis and conclusions which have been offered are adequate in light of site variables, such as karst topography and line sinks.
 - 4. OWL agrees with Newton County Wildlife Association, that bifurcation of land and Vegetation issues omits public comment on the combination of these.
 - 5. OWL cites to the comment of Newton County Wildlife Association at paragraph 9, and adds that "desired tree species" presumes into existence an unqualified standard which deviates from natural diversity of native species, and should be fully addressed in an open forum rather than dictated without public involvement and in violation of FNA and regulations.
 - 6. OWL opposes destruction of dogwoods, redbuds, red maple, oak or hickory trees. We agree with BLM that any plan excluding hardwood regeneration after 50 years is inadequate, and fails to acknowledge the value of hardwoods for timber harvest, and for wildlife food and habitat.
 - 7. No use of herbicides. Herbicide application reduces native plant species diversity.
 - 8. No use of prescribed burns on acreages to which herbicides have been applied. This constitutes an unnecessary toxic air pollution problem to offsite individuals. Herbicide inert ingredients may include pentachlorophenol, benzene, formaldehyde, and a number of additional highly toxic substances, the health risk of which is known and significant.
 - 9. No use of LC50/LD50 risk determination testing for vegetation management techniques. (Such determinations fail to achieve accurate results, and are unnecessarily cruel; they fail to establish effects on sensitive species, and on sensitive individuals; this testing is inadequate to establish appropriate dosage to average species and average individuals; 10% death rate to the species being promoted is unacceptable; inefficiency for a Plan the goal of which is to increase food to wildlife. 10% death rate is unacceptable forced nonselective diminution in natural diversity.)
 - 10. OWL agrees with the Comments of Newton County Wildlife Association and of Defenders of the Ouachita, that herbicide usage constitutes an UNACCEPTABLE risk to humans and animals, especially where the dosed individual has not assumed the risk as an employee or profiteer, and is the victim of externalization of the cost of such health consequences absent any direct economic benefit from the activity of spraying. The Defenders' Comment graphically points out that appropriate cost-benefit analysis must be a multi-dimensional computation, which looks not only at the net benefit but also at the allocation of losses and gains (described in economic terms as "Pareto Supriority" and "Pareto Optimality.")
 - 11. Use of herbicides should be curtailed or eliminated, due to data inadequacies. Many of these have been elaborated upon, in greater detail, in the Comment of Newton County Wildlife Association and others:
 - A. Extrapolation from animal studies regarding "observed effects." Harm to animals and humans from vegetation management is generally not readily observable: cancer, genetic mutations, birth defects among progeny, organic and systemic damage.
 - B. Missing neurological and immunological research. OWL agrees with the Comment of Defenders of the Ouachita, that absent research on synergistic effects of inert

3. Comment noted. See response to comment 1 of this letter regarding two-level decisionmaking.

Pages 1-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

Additionally, mitigation measures 24 and 25 on page II-57 have been strengthened to include karst areas and sinkholes.

4. See response to comment 1 of this letter. We feel that the Scope of Decisions discussion on page IV of the Draft EIS, as well as the Introduction discussion on page I-1; Need for Action discussion on page I-2; Scope of Decision and Implementing the Decision discussions on page I-8 of the Draft EIS clearly disclose the relationship between the Vegetation Management EIS and Forest Land and Resource Management Plans.

5. See response to comment 2 above. Additionally, vegetation management is necessary to accomplish many resource management goals and objectives. Environmental conditions at the project level will determine the specific need for, and amount of, vegetation management to be done. Target plants, as well as some individual non-target plants, are injured or killed by all vegetation management methods. However, mitigation measures such as number 19 on page II-45 of the Draft EIS requires that projects be designed in such a manner so as to protect and manage for a variety of species which can include species such as dogwoods, redbuds, red maple, oak, or hickory trees.

Public participation in the Forest Land and Resource Management Planning Process included debate about definitions for desired species.

Vegetation management projects must have site-specific analyses in compliance with NEPA (mitigation measure #1, page II-38 of the Draft EIS) which includes public involvement. Decisions on these analyses are appealable.

6

The commenter's preference for no herbicide use was included in the content analysis of all comments received. The Draft EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Ozark/Ouachita, methods other than herbicides are projected to be used on 75 percent of the total acres treated in the preferred alternative F in the Draft EIS page II-12. Furthermore, the determination of the most appropriate tool for a project must be made at the project level after site-specific analysis determines its suitability based on project objectives, species requirements, site characteristics, and effects on environmental elements such as soil productivity, vegetation diversity, wildlife, and threatened, endangered, proposed, and sensitive species. The requirement of site-specific analysis, mitigation measure number 1 on page II-38 of the Draft EIS, states that a reasonable range of alternative methods, including the use of methods which do not involve herbicides, will be examined and evaluated. Mitigation measure number 19 on page II-45 of the Draft EIS specifically requires protection and management for the production of a variety of overstory and understory vegetation during the design and implementation of all site preparation, timber stand improvement, and wildlife habitat improvement projects.

Additionally, the application of herbicides can easily be done in a selective manner which favors and/or maintains vegetation diversity in a stand. The Final EIS contains tables in chapter II, part B, which clearly define the amounts of selective and non-selective herbicide treatments for each activity within an alternative that allows the use of herbicide methods. Environmental conditions at the project level will determine the specific need for, and amount of, vegetation management to be done.

7

Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk. The 30-day waiting period imposed by mitigation measure 6 on page II-54 of the Draft EIS further reduces risk. See also response to comment number 4, Letter No. 245.

8

The standards selected are documented in the EIS. The cited standard is from EPA's Ecological Risk Assessment, standard evaluation procedures, and fulfills NEPA requirements for acceptance in the scientific community.

9

Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as a relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Rigorous economic analysis was not desired by most people who commented nor was it necessary for decisionmaking. Many people suggested that if any economic analysis is done that it be a simple display of costs. Most found analyses such as those done in support of Forest Land and Resource Management Plans to be overly complex, confusing, and extremely difficult for the lay person to understand. Because this EIS incorporates the goals and objectives of plans, it necessarily incorporates plan's economic analyses, which, for those who request more detail, respond to that need. Our approach follows direction in 40 CFR 1502.23.

We followed the advice of commenters and displayed only a straightforward analysis of direct costs. The economic principles of Pareto superiority, efficiency, or optimality necessarily involve extremely complex benefit-cost analyses. This complexity is magnified due to valuation problems encountered with unpriced, nonexclusive environmental resources. Economists on our staff are available to answer specific questions you may have.

10

All of the cited problems are readily apparent within the cytological investigation required by EPA to establish subchronic and chronic NOEL values.

11

We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research.

12 We used all existing validated studies which could be found in the literature. If you are aware of studies we have not used which would contribute to our scientific analysis, we would be pleased to have them reviewed.

13 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

14 We cannot respond to this concern because we do not have a definition for "chronicity" and its meaning is not self-explanatory.

15 The Draft EIS is clearly evaluates 7 herbicides and 4 additives. Within this context, the discussion of synergism is accurate and it applies only to those 11 chemicals as they are likely to interact with each other and with other chemicals present in the environment.

16 See also response to comment number 3, Letter No. 561.

17 Data used were found to be sufficient for modeling purposes.

18 Modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field. This process is one which is "...generally accepted by the scientific community..." (40 CFR 1502.22).

19 No data was found which indicated that tissue retention of these herbicides was occurring.

20 The original information cited in your comment are from manuscripts prepared but not published in the scientific literature by David Monroe. The information is inaccurate. Formaldehyde has been suggested as a possible breakdown product of glyphosate but has never been demonstrated either in the lab or in the field.

21 Testing of fosamine is adequate for its registration. Missing or unavailable data have been modeled consistent with the potential for this herbicide to cause significant negative impact (40 CFR 1502.22(B) and 40 CFR 1502.2(b)). Also see our response to number 14 above.

22 Comment noted. Appendices A and C were subjected to rigorous scientific peer review. See our response to number 16 above.

23 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

12 constituents, no chemical should be approved by USFS for wildlife and human exposure. Extrapolated bioaccumulation data for any VM technique for which actual studies have been conducted. (Utilization of existing actual bioaccumulation studies should supercede the imaginative extrapolations cited in the VMDEIS).

13 D. Extrapolated chronicity. E. Missing data on synergistic effects and chemical byproducts. F. Lifetime human cancer risks are extrapolated from insufficient test data.

14 G. Unstated margins of safety are alleged. Result-oriented conservative bias results in conclusions which lack any probative foundation.

15 H. Tissue retention data, is missing and excluded in excretion rate conclusions.

16 I. Finally, any study of actual field dosage is impossible, because glyphosate herbicide studies on toxicology and the environment are, "nearly total[ly] absent," according to sources cited by Defenders of the Ouchacha in its comment. Apparently Rodao breaks down into carcinogenic, neurotoxic Formaldehyde. Defenders of the Ouchacha identify a number of proposed herbicides and comment regarding their safety. OWL hereby incorporates the research and conclusions of Defenders in its Comment, as if fully set forth herein.

17 USFS Region VI has proscribed the use of fosamine, due to data gaps. OWL agrees with Region VI that inadequately tested herbicides should be excluded from use in National Forests.

18 OWL agrees with the comments submitted by Jane and Al Brooks dated September 15, 1989, identifying inadequacies in Appendices A and C. OWL concurs in the Comment of Newton County Wildlife Association, that information throughout the VMDEIS is inadequate to conclude that herbicide usage is an acceptable risk.

19 OWL agrees with Defenders of the Ouchacha that data supplied by the herbicide industry should not form the basis of USFS conclusions regarding the safety and effectiveness of products. Tort liability and marketing for profit affect the reliability of industry studies. Objective third party sources should be consulted-- entities which have no economic stake in research consequences.

20 OWL opposes use of herbicides due to historical instances of herbicide misapplication by careless and untrained workers.

21 OWL agrees with the Comment of Defenders of the Ouchacha, that herbicide application is not being proposed to be conducted by employees who are trained in rare and sensitive species identification.

22 OWL opposes use of VM techniques for which biodiversity analyses have not been conducted.

23 OWL opposes the use of repeated burns, because they reduce the hardwood component as USFS admits, and as addressed by Commentator Jerry Williams.

24 OWL favors utilization of individual timber cuts in substitution for timber stand poisoning.

25 OWL favors labelling of all herbicide-exposed extracts (wood, e.g.) from the Forest to minimize offsite air toxification to the public.

26 Identification of and elimination of destructive vegetative management in habitats suitable for threatened, endangered or sensitive plants and wildlife. (We agree with U.S. Fish & Wildlife Service that impacts on threatened or endangered species should be avoided, not "mitigated.") Dr. Thomas L. Noland, Ph.D. University of Arkansas in Plant Science, and OWL Botanist, also suggests that impacts on sensitive, threatened, or endangered species should be avoided or prevented, not "mitigated." 16 U.S.C. section 1531 recites that Congress declares that some species have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation, and that other species are in danger or are threatened with extinction, but are of aesthetic, ecological, educational, historical, recreational and scientific value to the Nation and its people, such that the U.S. has pledged itself to conserve, to the extent practicable, the various species of fish, wildlife and

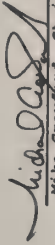
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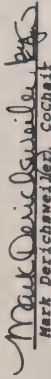
- 21 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Abstracts DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- Also see chapter V (Draft EIS pages V-7 and V-8) which lists nearly 90 people with a variety of backgrounds and affiliations who were intimately involved in scientific review of materials in this document to ensure objectivity.
- 22 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.
- Mitigation measures number 1 and 2 address the need for identification and protection of threatened, endangered, proposed, and sensitive species and their habitats.
- 23 See response to comment 6 of this letter.
- We are unsure what is involved in a "biodiversity" analysis, however, no vegetation management project can be implemented until a site specific analysis has been completed as provided for in mitigation number 1 on pages II-38 and II-39 of the Draft EIS. Amongst many considerations listed is diversity.
- In this EIS, we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, page II-38-39) recognizes the requirement for managing to maintain diversity.
- 24 Prescribed fire effects on hardwoods depends on fire frequency, season, and intensity with degree of effect ranging widely by species. See our analysis on pages II-11 and IV-30 to IV-45 of the Draft EIS.
- 25 See response to comment 6 of this letter.
- 26 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.
- In spite of the lack of scientific evidence that unacceptable effects occur, the Final EIS includes a provision that injected stems will not be sold for firewood.


Mitigation measures are defined or described on page II-1 (paragraph 1, part E statement), pages II-38 to II-59 (E. Management Requirements and Mitigation Measures), and page VII-5 of the Draft EIS. These sections clearly indicate that mitigation measures seek not only to lessen impacts, but in many instances avoid and prevent impacts. They also enhance beneficial effects. For threatened, endangered, proposed, sensitive or other wildlife see mitigation measures number 1 and number 2 on pages II-38 to II-40, mitigation measure numbers 17-19 on page II-45, mitigation number 4 on II-47, mitigation numbers 14-16 on page II-50, mitigation number 1 on II-52, and mitigation measure number 20 and 21 on page II-57.

Rather than create a new definition for mitigation for our EIS, we have used the definition in 40 CFR 1508.20.

- 28 OWL favors plan techniques to increase forest interior species, including, among others, predators and large undomestic animals. OWL favors plan methodology to monitor habitat fragmentation of neotropical migrant birds.
- 29 OWL favors plan techniques to monitor uneven age timber management and even age timber management.
- 30 OWL favors riparian vegetation zones. Presently, OWL can document that there are instances of timber harvesting right up to the edge of the water in places. This practice is destructive to water quality (turbidity, temperature) and destroys freshwater habitat for sensitive species such as madoms and some darters. Any plan should specify riparian zone protection such that water temperature, siltation, turbidity and volume are not altered.
- 31 OWL favors meaningful habitat inventory, identification and a plan of meaningful identification and preservation of wetlands.
- 32 OWL favors special protection for Novaculite glades, acid seeps, and bogs.
- 33 OWL favors contingency planning, in the event an herbicide alternative is selected, and adequate reserve funds.
- 34 OWL favors utilization of biological vegetative control "grazing" by nondomesticated species (Deer o.k., cattle not) only, except where a fully documented plan can achieve mitigation of erosion, water quality diminution and biota maintenance thru equally nonintrusive means. OWL concurs with the Comment of Native Americans for a Clean Environment, that grazing by deer is more appropriate to forest management than cattle.
- 35 OWL opposes incomplete cost-benefit analysis which fails to include:
- Costs of safety & health research
 - Actual monitoring costs
 - Actual health data from human/primate studies
 - Site monitoring costs to include pollution health costs, accident minimization, transportation safeguards, manufacturer accountability, and post-production cleanup bond.
 - Administrative overhead attributable to forest activities which breach the canopy (i.e. costs of "doing business" by the clearcutting method, as compared to conservation.
 - Chemical accident clean-up reserves. OWL agrees with the comment of Defenders of the Ouachita that chemical accident clean-up reserves should be factored into the cost-benefit analysis of any plan using herbicides, and suggests that such reserves should be established in fact (unless a no-herbicide alternative is chosen)
 - Foregone treasury revenues attributable to present production of forest products vs. saving timber for later production in future years when scarcity and/or elimination of tax subsidies increases lease prices.
 - Increases to community revenue attributable to jobs under manual management methods, as more fully described by Defenders of the Ouachita in its comment.
- 36 OWL favors the least invasive and least toxic methods of forest management. We favor a modified Alternative A-D, which includes the sparing use of low intensity basis fire and mechanical methods with an integrated management approach leaning toward Alternative A.
- 37 Herbicide usage should be excluded or extremely curtailed. OWL favors simple tree and small group selection as an environmentally sound vegetation management technique, coupled with canopy maintenance and shading to prevent diminution of species diversity.
- 38 Once a Plan is issued, OWL would like to be notified of any specific comment opportunities wherein the FS proposes herbicide application or clearcutting. For the foregoing reasons, OWL requests that flexible forestry vegetation management techniques be employed, and that no clearcutting and herbicide Plan be utilized prior to open public forum, per NHTA, to address the method of timber harvest to be utilized for vegetation management. Thank you for your consideration. It is essential.
- 28 The issues you raised are outside the scope of this EIS. Many of them are addressed in the Forest Land and Resource Management Plans for each national forest. However, we do discuss protection measures for the vegetation management activities addressed in this EIS. For example, see page II-42 of the Draft EIS, mitigation measure number 11, for protection of channel stability of perennial and intermittent streams; page II-49, mitigation measure numbers 10 and 11 on wetland protection; and page II-57, mitigation measure numbers 23 and 24 on protection of water and soil. Forest Plans provide protection of riparian resources and this EIS complements that protection.
- 29 Experience indicates that mitigations 27 through 31 on page II-58 of the Draft EIS are adequate to reduce risk of accidental spills. However, mitigation number 32 on page II-58 of the Draft EIS requires preplanning for all herbicide projects.
- 30 The Draft EIS evaluated the use of domestic livestock as a biological method of vegetation management (pages II-37 and II-38, Draft EIS); however, the Draft preferred alternative (alternative F) did not allow the use of this method (Draft EIS pages II-10 to II-12). In the Final EIS also, the use of domestic livestock as a biological control method is not available for use in the preferred alternative. Deer and other wild animals are free to browse or graze any place in the general forest area, and we have little or no control over when, where, or how they feed.
- 31 See our response to comment 9 above. Additionally, we need to emphasize that when considering costs or benefits they must receive equal treatment. If we are to consider secondary and tertiary, or beyond, costs for herbicide use, we would need to consider similar costs for other methods. We considered only direct costs, and did so equally for all methods (40 CFR 1502.23).
- 32 Your preference for alternative modified D was included in the content analysis of all comments received.
- 33 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures (see preface to volume I, Final EIS) especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 34 Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.
- 35 Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS.


Mike Crawford, Chair
Ouchita Match League
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Hot Springs, Arkansas 71913


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312 Kieth
Norman, OK 73069


Kathy Carter-White, OBA #10233
Attorney for Ouchita Match League
P.O. Box 124
Welling, OK 74471

634

To whom it may concern -
I prefer ALTERNATIVE A.
I'm Ag. - NOT Herbicides

Jane Walden
P.O. Box 131
Pencil Bluff, Ar. 71965

Response to Comments in Letter No. 634

From: Unreadable name

Comment No.

Response

1 Your preference for alternative A and your opposition to herbicides were included in content analysis of all comments received.

(1)

USDA Forest Service
1720 Peachtree Rd, NW
Atlanta, GA 30367

November 5, 1989

Re: DEIS Vegetation Management
in the Ozark/Ouachita Mountains

Although I tried my best to get through the DEIS documents and read every page, it was impossible for me to do, considering that I already have a 60-hour⁺ work week.

However, based on what I was able to read, I would like to mention my most pressing concerns:

- 1) I am opposed to attempting to manage parts of the national forest like an agricultural field, using herbicides whose long term effects have ~~not~~ been modeled but not thoroughly studied over the long term. I am enclosing an excerpt from a National Research Council report that indicates some of the potential

Response to Comments in Letter No. 635

From: Teresa A. Maurer

Comment No.

Response

- 1 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

②
 problems which agriculture now faces, and the forest could face.

2) I am interested in a biologically diverse forest and herbicide use reduces forest diversity and disrupts ecological processes that probably have effects far beyond the sprayed areas--in terms of soil erosion, ^{fire} contribution to wildlife diversity (loss diverse habitat) and possible influence on rare and endangered species habitats. I don't feel this issue was addressed adequately in the DEIS.

3) Although I have not seen her proposal, I hope the USFS might pursue some of Norma Greiv's ideas on integrated vegetation management which, I understand, emphasizes less invasive & topic methods. I would also like the USFS to look more carefully at biological control methods, possibly using grazing animals, as part of the vegetation management approach. I feel that this was not explored as thoroughly as other methods.

4 For these and other reasons I support alternative D, but will continue to work my way through the drafts and possibly comment more later, even though they may not make the Nov 6 deadline.

2 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

3 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

4 Your preference for alternative D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Thanks for the opportunity to comment.

Sincerely —

Teresa A. Maurer
Rt 2 Box 76
Wister, OK 74966

US Forest Service concerning Vegetation Management
in Ozark/Ouachita mts. (USFS VMSEIS)

Do not use herbicides in our national forest
as this land belongs to us all - herbicides are
very dangerous to people who have any type of
breathing problems - This affects my whole
family. National Forests should be left
in the natural state when possible.

Flowering & nut trees are needed to give
food & honey for the forest population.

Alternative A is best. Alternative D is second
Diana Ray, Rt 3 Box 470, Collinsville
OK 74021

1

2

Response to Comments in Letter No. 636

From: Diana Ray

Comment No.

Response

1 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions. Persons who are sensitive to chemicals are not permitted to work in projects involving herbicides.

2 Your preference for alternatives A or D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

NEWTON COUNTY WILDLIFE ASSOCIATION
P.O. BOX 189
JASPER, ARKANSAS 72641

November 6, 1989

John E. Alcock, Regional Forester
USDA Forest Service
Draft G/O Attn: Rm. 362S
1720 Peachtree Rd., N.W.
Atlanta, GA. 30367

Dear Mr. Alcock

The Newton County Wildlife Association (NCWA) representing over 300 people, an affiliate of the Arkansas Wildlife Federation, would like to make the following comments and suggestions for alternative modifications to the Draft Environmental Impact Statement for Vegetation Management for the Ozark/Quachita Mountains (VMDEIS).

1 The VMDEIS is confusing and not readily understood by the majority of the public who have tried to review it and to many it is unclear how this document relates to either of the Land and Resource Management Plans (LRMP). Many of our members felt they had already voiced their opinion on VM when they responded to the proposed LRMP in 1985. NCWA feels that the two documents should have been written as a single EIS to allow a more thorough review of the total forest management activities and complete evaluation of the cumulative significance of all adverse environmental impacts as a whole.

2 The U.S. Fish & Wildlife Service Memorandum dated August 3, 1989 to you and the U.S. Department of Interior letter dated August 11, 1989 which was in response to Quachita SEIS LRMP, both also critical of the fragmentation of this issue into two documents supports our above comment by reference.

3 VMDEIS fails to meet NEPA Regulation 1502.8 due to conflicting statements it contains and the lack of clarity regarding specifics. Examples of lack of clarity are: statements on page IV-7, Vol 1, "This EIS makes no value judgments (acceptable/unacceptable, safe/unsafe)." and then on the next page states, "If NOEL divided by the dose results in a number greater than 100, a chemical is considered to pose an acceptable risk for the general population (excluding sensitive individuals)." On page IV-14, Vol 1, typical public scenario, "indicates that no member of the public, including sensitive individuals, should be affected by herbicides or additives proposed for use in Region 8." but is unclear whether these sensitivities were included under maximum public scenario?

Another example which confuses the reader and does not inform them of the possible bias in scientific information is on page IV-4, Vol 1, "Where unavailable (either required data not yet validated or data which is not required for registration) data from the open scientific literature were used. In two cases (inert ingredient data, and data concerning the dermal penetration rate of triclopyr), corporate proprietary data (inert ingredient data is confidential business data) or a pre-publication summary were used. This is a violation of NEPA 1502.21, "...proprietary data which is itself not available for review and comment shall not be incorporated by reference."

Response to Comments in Letter No. 637

From: Newton County Wildlife Association

Comment No.

Response

1 Comments noted. The Interdisciplinary Team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, and that the analysis is easily read and understood, some may still find it overly complex. The summaries on pages 111 through 114 of the Draft EIS attempt to address this problem. We feel that the Scope of Decisions discussion on page 14 of the Draft EIS, as well as the Introduction discussion on page I-1; Need for Action discussion on page I-2; Scope of Decision and Implementing the Decision discussions on page I-8 of the Draft EIS clearly disclose the relationship between the Vegetation Management EIS and Forest Land and Resource Management Plans. Generally, this process concludes with an amendment to the Plans.

This EIS is used to make decisions on how the vegetation management program on Ozark/Quachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS (40 CFR 1501.7(3)) and have not included several issues which were discussed in Forest Land and Resource Management Plans. We do not believe that repeating those issues and associated analyses here, when they are already available in another document is necessary to aid the decisionmaker in making a reasoned choice among alternatives.

2 Text on page IV-7 states "This EIS makes no value judgments (acceptable/unacceptable, safe/unsafe). It compares predicted risk with published standards..." The NOEL statement on the next page is one of those published standards. This is done so as to comply with 40 CFR 1502.24.

Typical public scenario information is found on page IV-14 as stated. The information discussing the maximum application rate is found under the next subheading, "maximum public scenario", and in table IV-2.

John E. Alcock, Regional Forester, Southern Region, Nov. 6, 1989 -
page 2

4 We ask that the specific acres to be treated in the first year after the plan is finalized be included in the Final EIS; and that a supplement be publicly circulated each succeeding year. The VMEIS fails to list the specific acreages individually for each Forest's LRMP to be treated by each method under each alternative. This lack of specifics is a serious oversight since VMEIS does not adequately fully inform the public as to all proposed actions for each Forest. In light of the fact that both LRMPs are either under revisions or appeal to reduce the total acres of management the numbers stated in the VMEIS are high and meaningless.

5 The VMEIS many times fails to clearly cite specific references and sources it depends upon for its conclusions as required under NEPA 1502.24, concerning methodology and scientific accuracy.

6 VMEIS fails to adequately address the purpose and need for action in chapter I as required by NEPA 1502.13. Specifically, the effects of silvicultural systems and timber harvest methods in causing the need for vegetation management activities is never addressed nor was it addressed in the LRMP. The document addresses this subject inadequately in a single paragraph near the bottom of page I-2, Vol. I. The majority of this chapter deals with other issues.

One of the issues mentioned but not seriously addressed begins at the top of page I-7, Vol I, "Timber harvest systems and vegetation management must conform to the biological needs of the desired tree species." It goes on to state in para. 5: "Clearcut and seedtree harvests create open conditions with abundant light. Shelterwood and group selection harvest can be varied to create low to abundant light." However on page I-2, Vol. I; it states, "Activities affecting vegetation not addressed include silvicultural systems, harvest cutting methods, ...". In order to allow full evaluation and to avoid fragmentation of this issue vegetation management and its relationship to timber harvest methods should be thoroughly addressed in final EIS.

We would like to take the opportunity to make the following comments on this issue. The forms of vegetation management which have the greatest impact on the environment are silvicultural systems. We incorporate by reference all of NCMWA's response to Proposed LRMP and DEIS for the Ozark-St. Francis National Forests dated May 20, 1985; specifically: chapter 8, pages 37-58; along with our discussion of the flexible forestry alternative which eliminates much of the need for vegetation management and Appendix M, Resolutions on Major Forestry Issues, as supported by Arkansas Citizens National Forest Coalition, Arkansas Sierra Club, National Wildlife Federation, the Newton County Wildlife Association, and other private individuals, specifically resolution #2 on the use of herbicides. This response should already have been forwarded to you along with any others which commented on vegetation management or herbicide use in their response to this proposed LRMP and DEIS.

We also incorporate by reference the latest version of the appeal resolution agreement to the Ozark/St. Francis LRMP, the specific features of which should be included in the final VMEIS.

3 This section says that we refused to use any corporate proprietary data or data not yet validated. We also recognize that data usually are not available when not required in the registration process. We also say that we did use confidential business data regarding inert ingredients and at least one pre-publication summary. In all cases, data we used are disclosed in the EIS (see pages 3-45 through 3-51 of appendix A for information on inert ingredients).

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Abstracts DB, and BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

4 Since this is a programmatic EIS, projected acres are displayed for each alternative by method for the combined Ozark/Ouachita national forests area, not for the individual forests. As we state on page II-2 of the Draft EIS, the acres are only projections used to evaluate environmental effects quantitatively. Upon implementation, the actual program will be based on site-specific analysis of projects and may vary from these projections. Vegetation management projects must have site-specific analysis in compliance with NEPA (40 CFR 1500-1508) (mitigation measure number 1 on page II-38 of the Draft EIS) which includes public involvement.

5 The EIS is extensively documented in standard scientific documentation form. Chapter VIII lists the more than 500 references cited within the document, and references for each appendix are listed at the end of the appendix text.

6 We disagree. In chapter I, Purpose and Need, we feel we indicate the activities to be addressed (page I-1 of the Draft EIS) and we clearly indicate that silvicultural systems and timber harvest methods are not addressed (page I-2 of the EIS). On page I-12 of the Draft EIS we discuss why these topics are not analyzed. We do provide a general discussion of harvest systems and vegetation management on page I-7 and I-8 of the Draft EIS. However, each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. Again, as stated above, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative. Regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans.

- 7 Numerous people have expressed concern that the agreement and stipulation filed February 27, 1979 in the case of NCWA Vs. Henson, No. LR-75-C-173, will no longer be in effect after this document is finalized. NCWA requests that the agreement and stipulation be extended and incorporated in the final VMEIS. If it is not incorporated NCWA requests that each and every activity that would have violated the terms of the agreement and stipulation be listed and specifically described in the final EIS.
- 8 NCWA supports and includes by reference Kent Bonar's comments to VMEIS concerning timber management and in particular those comments dealing with threatened, endangered, and sensitive species. NCWA supports and includes by reference Tim Snell's comments to VMEIS; specifically those concerning species composition and density of regeneration that can be controlled by the harvest method, timing of harvest, natural competition and succession factors. Good forestry management requires an understanding of the biological factors that influence tree survival, competition and succession, especially as it relates to light requirement, seed crop availability and seed crop viability.
- 9 VMEIS fails to consider all alternatives when it did not include integrated pest management alternatives which emphasize prevention of the need for vegetation management; allowing natural processes to work; employing the least invasive and least toxic methods as per NEPA 1502.14.
- NCWA is opposed to the to future continued use of herbicides on all National Forest lands because:
- 10 A) of extensive data gaps in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, 66-67, Vol. I; when the overall costs of obtaining the necessary information are not exorbitant, the USFS is required to obtain this information. If gathering missing information will be exorbitantly costly, your agency needs to state the relevance of the missing information to evaluating "reasonably foreseeable significant adverse impacts" on the environment. The track record of pesticides in terms of known adverse impacts is such that when information regarding significant adverse impact is missing, it is reasonable to assume that such impacts may occur.
- Stated plainly, if a pesticide does not have adequate cancer testing, it is reasonable to assume that the pesticide may cause cancer, because many pesticides are carcinogenic. Moreover if a full formulation has not been tested for birth defects, cancer, or reproductive, chronic or genetic damage, then it must be assumed that any of those effects may occur if people or wildlife are exposed to the pesticide or its metabolites.
- If research on long term effect of a pesticide is not available, and your agency does not undertake such research, you must admit that you do not know whether use of the pesticide will have long term, indirect, or cumulative effects.
- 11 B) of considerably significant needs for further research to fill these data gaps as stated on pages IV-147, Vol. I;
- 7 We have carefully reviewed the 1979 agreement and, while it seems to have been intended to be in effect for the 10-year lifespan of the 1978 Timber Management Plan, we don't find any provisions in the Vegetation Management EIS which are contrary to the agreement.
- 8 We are unaware of any violation of trust or breach of agreement.
- 9 On pages I-3 through I-7 of the Draft EIS, we also provide discussions on the strategies and/or relationship of vegetation management to species' biological needs. Pages I-7 and 8 in particular discuss how harvest methods and vegetation management are combined to meet species' survival needs. This is reinforced by the application of mitigation measure number 1 on page II-38 of the Draft EIS which requires that prior to any vegetation management treatment, projects will undergo site-specific analysis (mitigation measure number 1 on page II-38 of the Draft EIS) which determines appropriate methods and tools, intensity and selectivity of applications, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. This includes the examination and evaluation of a reasonable range of alternative methods, including the use of methods which do not involve herbicides and a "no action" alternative.
- 10 Mitigation measure number 3 on page II-40 of the Draft EIS is applicable to all alternatives and requires that Integrated Pest Management (IPM) principles be used during site-specific analysis. IPM is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM, which requires a full variety of tools be available and used where appropriate, is often erroneously interpreted as being an alternative which excludes use of pesticides.
- 11 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- The Risk Assessment states that carcinogenicity is assumed even in lieu of hard data.
- Please review the discussion of carcinogenicity (pages 3-34 through 3-45 and 5-37 through 5-45 of appendix A). The conservative assumptions you suggest are incorporated within this analysis. See also our response to Letter No. 498, comment 7.
- We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.

John E. Alcock, Regional Forester, Southern Region, Nov. 6, 1989 -
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- 12 C) as stated on page IV-10, Vol. 1; "Studies on animals are modeled to approximate human health effects, but, especially for chronic effects, the relevance of 2 to 4 year studies on animals when compared with a 60 or more year life span for a human has been seriously questioned."
- 13 D) VMDEIS makes arbitrary use of quantitative risk assessment without an adequate data base, which is lacking for the majority of herbicides proposed for use; while no qualitative assessment was performed to determine the accuracy and scientific verifiability of data used to fill these large data gaps. Many times no risk was assumed because no studies had been done to determine all possible effects.
- 14 E) the "no observed effects levels" (NOEL) for sensitive individuals, the young, and the old may be too high, since they are only the predictions from scientific modeling from studies on healthy laboratory animals and not human studies; therefore herbicide use on our public lands involuntarily exposes these individuals who exhibit a range of reactions from lower than normal NOEL's to possible toxic, immunological, neurological and allergic reactions. Thus endangering their lives and preventing them from fully enjoying their national forests.
- 15 F) quantitative risk analysis is a relatively new tool and does not have a history for accurately predicting results. Such risk analysis was used in California and Oregon but failed to predict toxic reactions from eating watermelons sprayed with a pesticide at 1/5 the NOEL just a few years ago. (Witt, James M. and Sheldon Wagner, 1986 Aldicarb poisoning. Letter to the editor Journal of American Medical Association 256:3218.
- 16 G) VMDEIS does not fully analyze all potential impacts and risks to water quality in geological regions containing fractured substrata, especially where line sinks have created areas of rapid internal drainage during heavy runoff. There are no water quality standards for most proposed herbicides since the Environmental Protection Agency (EPA) and the individual States have failed to set any standards for them. USFS claims to meet the strictest drinking water standards set by the EPA of .100 ppm for 2,4-D, the only one for which they have information. It is assumed the rest are safe if they do not exceed those amounts for 2,4-D.
- 17 H) worst case scenarios are over conservative in the estimates for extreme spills. What if a helicopter crashed into refill tanker on landing and exploded into flames? What if hikers or hunters wandered into an area recently treated with herbicides and eat berries or wildlife from that area? Spills onto workers this last April on the Buffalo District of the Ozark National Forest exceeded those predicted by two fold.
- In District Judge Robert Belloni's opinion in S.O.S. vs Block, he states the general process of a pesticide worst case analysis: "Plainly the worst result that can occur as result of proceeding in the face of uncertainty as to whether a herbicide causes cancer is that it does cause cancer."

12

While this is an area of controversy, we have chosen to adopt the position that classical toxicity testing of greater than one-half an animal's life expectancy can be used to, proportionally, indicate potential response in another animal. As the use of laboratory surrogates is the most widely-used process, we have adopted it.

13

We are unaware of any arbitrary use of risk assessment in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking, we identified the lack of data and explained how the Risk Assessment dealt with the gap.

We are unclear as to the purpose or meaning of qualitative risk assessment. 40 CFR 1502.22 requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on reliability and relevance to the process.

14

Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible differences between individuals, we considered potential public exposure. In table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

15

In addition, mitigation measure number 16 (page II-56 in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.

15

Quantitative risk assessment has been in general use since the late 1970's. While not perfect, it has an excellent track record. The case referred to was one of an unpredicted synergism which was overlooked in the analysis. Reasonably foreseeable synergisms with potential to cause significant effects have been considered in this EIS (40 CFR 1502).

Potential effects on ground water are discussed in appendix C and on pages IV-100 through IV-105 of the Draft EIS. Discussion of karst areas is on page IV-104 of the Draft EIS. Additionally, mitigation measures 22 through 25 on pages II-57 and II-58 of the Draft EIS address the need for protection of water resources.

A worst case situation evaluated -- percolation/leaching through an Astatula sand -- is a significantly worse case than that presented by fractured sedimentary rock overlain by a layer of soil containing organic matter. Karst areas are protected from application of herbicide by mitigations presented in chapter II section 2.c of both the Draft and Final EIS.

Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances -- states the following:

(H) Toxic Substances -- Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.

EPA has also either proposed or adopted several drinking water standards for the herbicides we evaluated. We applied the strictest one, the one for 2.4-D.

The Council on Environmental Quality Regulations, 40 CFR 1502.22 require that "reasonably foreseeable" significant adverse impacts be evaluated in order to make a reasoned choice among alternatives, management requirements, and mitigation measures in part E of chapter II constrain the magnitude of reasonably foreseeable accidents (see especially number 28 on page II-58 of the Draft EIS). We used water-based accident scenarios rather than terrestrial because the potential for significant environmental harm is higher. The terrestrial accidents you suggest are possible, but pose less environmental threat than the accidents we evaluated.

Since aerial application is not permitted either in the Draft or Final preferred alternative, concern for a helicopter crash into a tanker is not "... reasonably foreseeable ..." (40 CFR 1502.22(b)) within the constraints of the EIS.

Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.

John E. Alcock, Regional Forester, Southern Region, Nov. 6, 1989 -
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- 18 I) LC50 and LD50 are inadequate alone to determine risk to humans and wildlife since they only take into account acute toxicity. Long term, low level toxicity studies have not been done to determine the cumulative, synergistic long term effects when using full formulation herbicides with their secret inert ingredients (or unknown contaminants/by-products) nor their breakdown byproducts and metabolites. This is a serious oversight of the EPA information on which USFS depends for justification of their use.
- 19 J) neurological and immunological data is unavailable for all proposed herbicides listed since EPA does not require these for registration currently. Hexazine applicators have frequently complained of headaches from breathing of vapors all day long. This indicates the need for further studies in this area.
- 20 K) of unmentioned possible adverse effects upon biodiversity and threatened, endangered, or sensitive species on National Forest land since herbicides disrupt the natural ecological processes through reduction in biomass and composition, and reduced abundance of ground cover to protect soil from erosion in recently cutover areas. This is also supported in a previously referenced letter from U.S. Fish and Wildlife Service dated August 3, 1985.
- 21 L) the use of herbicides does not contribute as positively to local economies as manual or mechanical methods of vegetation management. As stated on page IV-129, Vol. I, average cost per acre not including utility ROW for herbicides is \$61.73, more than \$40.00 of this goes to out of region chemical manufacturers while for manual is \$55.03, all of which could stay in the local economies.
- 22 M) of possible toxic residues or metabolite contamination in wild foods collected or game taken from the forest. Bioaccumulation of herbicides is insufficiently assessed since studies used to predict the long-term bioaccumulation were only four day elimination rate studies with rats and dogs and do not consider bioaccumulation in humans using these food sources.
- 23 N) many of us are opposed to poisoning of Dogwoods, Redbuds, and Red Maple since they are intricately interconnected with the web of life. (Thomas, William A. Accumulation and Cycling of Calcium by Dogwood Trees)
- 24 O) herbicide use reduces the natural composition creating pure stands which are more susceptible to disease and other pests and parasites. We are concerned that this will result in additional costs for treatments of these problems. This indirect impact is not addressed nor how these additional problems will be resolved. (Boyce, J.S. Forest Pathology)
- 25 P) serious nutrient losses may occur where clearcutting and reforestation are supplemented by control of competing vegetation with biocides. (Bormann, F. Herbert et al) The Nutrient Cycles of an Ecosystem

18

LD50 and LC50 are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter 3) and in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.

Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data. Also see our response to Letter No. 498, comment 7.

19

We agree that it would be advantageous to have neurotoxicological and immunotoxicological data for the chemicals reviewed, but this data is unavailable. At present there is no consensus on this subject; no generally accepted testing procedures for use in these two areas of research. Headaches are normally considered (along with nausea, dizziness, and other symptoms) as simple toxic effects. Defining them as neurotoxic effects is too narrow a focus of this symptom.

20

See our response to comments in Letter No. 42, Comment No. 2.

21

See our response to comments in Letter No. 23, Comment No. 2 regarding employment. We did not disclose data showing increased returns of \$40 per acre for manual treatments. In fact, the limited data we supplied on pages IV-127 through IV-130 of the Draft EIS suggest a figure much lower than \$40, but we do not calculate it in any event. Additionally, if effectiveness of treatment is considered the comparison between manual and herbicide treatments becomes even closer. There is also the chance that labor may be provided by a contractor outside the community or even the State. Measuring the direct input to local economies is much more difficult than supposed in your comment. This effect is one which was determined to be outside the scope of this EIS.

22

We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3, and our response to comment 18 above.

23

Vegetation management is necessary to accomplish many resource management goals and objectives. Environmental conditions at the project level will determine the specific need for, and amount of, vegetation management to be done. Target plants, as well as some individual non-target plants, are injured or killed by all vegetation management methods. However, mitigation measures such as number 19 on page II-45 of the Draft EIS requires that projects be designed in such a manner so as to protect and manage for a variety of species which can include such as dogwoods, redbuds, red maple, etc.

24

Effects on species composition on a given site are discussed in sections C and D of chapter IV. These effects may occur when using any method and are not unique to herbicide treatments. Recognizing that these effects can be detrimental at times, we included mitigation measure number 3 on pages II-40 and II-41, mitigation measures 17, 18, and 19 on pages II-44 and II-45, and mitigation measures 7, 8, 9, and 10 on page II-42. These provisions coupled with site analysis and stocking provisions in Forest Land and Resource Management Plans ensure management for a variety of species.

25

In the study you cite, an entire watershed was completely clearcut and vegetation regrowth was deliberately prevented for several years by repeated, broadcast herbicide treatments of the whole watershed. Such an extreme scenario is impossible on national forests given standards and guidelines in Forest Land and Resource Management Plans and mitigation measures on pages II-52 to II-58 of the Draft EIS. Also see page IV-106 of the Draft EIS.

John E. Alcock, Regional Forester, Southern Region, Nov 6, 1999 -
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26

Q) VMEIS does conclude there is some risk but does not assume liability for these risks. Chemical manufacturers all include the warning "use at your own risk" on their herbicides. USFS does conclude the risk is minimum making them immune from civil suit should we find 10, 20, or possibly 30 years later that our ground water has been contaminated or we are suffering from unforeseen health effects associated with herbicide use. The public should not be required to accept these risks.

For all of the above reasons we object to the use of herbicides for vegetation management when viable alternatives exist. We recommend that our public lands not be managed with the use of herbicides.

NCWA RECOMMENDATION

27

NCWA recommends a modified Alternative D including a long-term study to eliminate the need for vegetation management through more ecologically sound timber practices, such as NCWA's Flexible Forestry along with an integrated pest management program emphasizing prevention; allowing natural processes to work; employing least invasive and least toxic methods; follow-up monitoring and evaluation to fill in data gaps. The following modifications are needed to make Alternative D a viable alternative:

- A) Reduced management to 75,000 total acres per year in light of possible revisions and amendments to current LRMPs.
- B) Use of only low intensity prescribed burns (flame length/height 3' or less) and only upon acreages which have not had herbicides applied in the last 10 years.
- C) No firewood permits for any herbicide treated wood.
- D) No intervention in habitats which might support any threatened, endangered, or sensitive species until long-term studies indicate impacts are appropriate to that habitat. If left alone, these areas will have a more stable habitat with fewer human disturbances and more natural disturbances taking over to which they are already adapted.
- E) Emphasizing manual methods of treatment with some low intensity mechanical treatments using only tractor drawn farm equipment which would expose no more than 8% of soil on the site.
- F) Maintenance of mixed forest condition with a mix of species in various sizes and numbers as existed on each stand prior to manipulation which is considered in conjunction with harvest methods.
- G) Increased use of uneven aged timber mangament such as group and individual tree selection to regenerate white or red oaks and hickory which should greatly reduce the need for any further vegetation management.
- H) Use of biological treatments which do not include domestic animals.

26 The risk is minimal, but we are unsure about anything we have included in our analysis which prejudices any civil suits. This EIS makes no declarations of liability from herbicide use.

27

Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures (see preface to volume I, Final EIS) especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

John E. Alcock, Regional Forester, Southern Region, Nov 6, 1969 -
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I) Implementation of all vegetation management activities should be vigorously monitored to insure compliance with final EIS. The majority of current health and safety problems are violations of current standards and guidelines. (see attached affidavit concerning spills onto worker of herbicides on Buffalo District of Ozark/St. Francis this last April by Bernie McCabe)

J) No use of prescribed burns on mixed and hardwood stands.

K) ROW's managed as linear wildlife plots and planted with low growing grasses and browse.

These are not significant modifications to alternative D and may easily be incorporated into LRMF's by amendment to the Standards and Guidelines as the other Forests have done in Region B.

SUMMARY

In summary NCWA is opposed to the use of herbicides. There are unknown and unacceptable risks associated with their use and viable alternatives do exist. NCWA recommends a modified Alternative D. This alternative will greatly reduce the problems with competing vegetation.

Thank for the extension of time and for the opportunity to examine this complex and lengthy document.

Sincerely,

Bernie McCabe
Bernie McCabe, President

Edd French
Edd French, Vice-president

Cecille H. Morin
Cecille H. Morin, Secretary
(acting)

Dave Spencer
Dave Spencer, Treasurer

Kent Bonar
Kent Bonar, Director

Joe H. Morin
Joe H. Morin, Director

FOOTNOTES & REFERENCES

- Boyce, J.S. Forest Pathology p. 516. New York: McGraw-Hill, 1961. "Pure stands are more susceptible to disease, particularly those caused by introduced parasites, than mixed stands. Mixtures of conifers and hardwoods are especially desirable because these two classes of trees in general have their own groups of fungus parasites. A pure stand forms an ideal situation for a pathogen to build up to epidemic proportions. Infection is direct and rapid from tree to tree, and if the one species is destroyed there is nothing left. The most hazardous pure stands are even-aged because fungus parasites are often virulent during only one stage in the development of a tree."
- Bormann, F. Herbert, and Gene E. Likens. The Nutrient Cycles of an Ecosystem Scientific American 223 (1970) summary. Serious nutrient losses may occur where clearcutting and reforestation are supplemented by control of competing vegetation with biocides. At Hubbard Brook in New Hampshire, a watershed was clearcut, the timber was left lying on the ground, and the area was sprayed with biocides. The purpose of the study was to determine the effect of herbicide spraying where soil was not disturbed but trees were no longer taking up nutrients. Nutrient losses for three subsequent years were as follows: Nitrates 40 times normal runoff; Potassium 21 times normal runoff; Calcium 10 times normal runoff; Magnesium 7 times normal runoff.
- Thomas, William A. Accumulation and Cycling of Calcium by Dogwood Trees. Ecological Monographs 39, No. 2 (n.d.) "Dogwood trees function as pumps which keep calcium in circulation through the biologically active upper layers of soil...Calcium is the element removed in greatest quantity when timber is logged...Flowering dogwood (Cornus Florida) has been acknowledged as a nutritionally beneficial understory species due to accumulation of calcium in its leaves and rapid decomposition of its litter, thus releasing calcium for use by other species."

Allegation Concerning Herbicide Spill April 1, 1989

April 7, 1989

The following is the statement of my observations on Saturday, April 1, 1989 of the United States Forest Service's site preparation using Velpar spotgun application on a 3' x 3' grid to kill off hardwoods on two of the four areas in Buffalo District of Ozark-St. Francis Forests for spring 1989. These two areas are further described as 1) "Crossroads" Compartment 168, stand 1, 37 acres m/l; and 2) "Robinson Road" Compartment 118, stand 16, 10 acres m/l.

Upon arriving at 8:30 AM and walking down to the "Crossroads" site I notified Marty Kindred, silviculturalist, that my friends and I were there to observe this herbicide application and its management. Odean Edgmon was the only other USFS personnel present. Ten Spanish speaking men, I suspect Salvadorians, were filling backpacks and calibrating spotguns just uphill of trucks. Marty was using surgical gloves to hold calibration flask or touch anything the Velpar had leaked onto while filling. Several times there were direct spills onto ground of an ounce or less of Velpar. Also the crewleader was adjusting the equipment and calibrating the guns by directly spotting the ground many times just in front of himself. Marty did finally ask him to take his tests into another backpack and not on the ground only after I noted my concern to him about this overapplication directly in fillup area other men were working and sitting around in. Marty seemed unconcerned about the spills during the filling of the backpacks.

Marty said they had flagged a 75' buffer strip either side along three protected running streams that day as well as asked them not to apply any Velpar 10' either side of road through middle of the site so as to not kill off the grass, which was growing well, which minimized erosion and runoff into these streams. However all the above noted spills were just past 10' strip above the road. I asked Marty how much they intended to apply; he said contract calls for 1 gallon/acre, so discounting stream side zones and road there was probably 28 acres to treat. I then counted the empty containers to be 28 gallons filled initially at crossroads site.

Only the crew leader and the contractor spoke any English so USFS personnel had to communicate through them to the crew. They formed up in a loose wing formation and started uphill to the East along southern boundary and stream with Edgmon following them. Marty went out to put notice of Velpar application and data on 1 x 5 cards to trees along boundary.

It was my opinion this wing formation was not uniform and at times broke up into confusion as to whether a particular area had been treated. Some of the crew were treating previously treated areas. Marty Kindred's comment on this was that there was little we could do to control this wing formation, we just try to herd them around. When the crew returned down hill in

another pass the wing formation had broken up even more with some of the crew dragging behind the rest aimlessly applying the Velpar, even hitting their own pants' legs with Velpar. When they crossed the road at least two of them applied spots directly on the road with the rest applying up to the road's edge ignoring the 10' buffer either side of the road. This time I was able to observe them make the turn around downhill West of the road. Again this was very sloppy with many of them treating the same area E or W times as they tried to reform for another pass. Also on their return back uphill to the East one crew member spotted the road again. On their return downhill I observed the application twice within the stream side protection zones which were flagged once even within 5' of running water. At least half of the spray backpacks and guns leaked excessively to stain the crews clothes and possibly even leaked directly into the stream as they crossed them. When the crew returned downhill along the North edge they turned back South along the lower side of the site, just above a bluffline treating this area again back toward the fillup area. Again I observed two crew members applying Velpar this time within protected zone along Southern stream. They were to put 1 spot in three different points but this member did not understand this instruction and applied three spots to each point until they could explain the proper method of application.

Carol Florida spoke in Spanish to the crew telling them the Velpar was very dangerous. The crew leader then had those with leaking equipment to put on trash bags around their waists so it didn't leak directly onto their clothing. They still had Velpar in their sprayers so they headed back North to use more of it up along downhill edge of road. Two crew members stayed behind treating the area downhill of trucks again and again. This less than 2000 sq. ft. area was treated with at least 10 times the recommended amount. When Edgmon decided they had treated the area sufficiently they loaded up the equipment which was still leaking. I estimated there to be @ 8 gals. Velpar left in spray tanks. Upon loading into trucks the leaking equipment spilled about 8 ounces onto tail gate total. The crew leader just wiped this up with a rag in his bare hands. Since there were 8 gallons left, this further supports my contention of nonuniform application and lack of uniform and proper calibration of spot guns which some seemed to clog and not apply uniformly. Unfortunately this area may need to be retreated again someday. Before leaving this site I spoke with M. Kindred telling him of some of my concerns and suggested he should again instruct the crew as to safety precautions and the buffer strips which were not to be treated.

We followed them to the next site Robinson Road #1. They seemed to drive excessively fast down Parker Ridge Road at speeds 35-40 mph at times. Of course the spary equipment was bounced around quite a bit.

Upon unloading the spray packs a spill of @ 1 qt. of Velpar was noted in the back of the truck which probably also leaked out

the back of the truck. I strongly suspect spills on public roads which passed residential areas. Marty said nothing to the crew and again they filled their spray tanks uphill of road and recalibrated some of the spotguns.

The same abuses noted at Crossroads continued on this site as well. Again crew members with leaking sprayguns walked through protected areas with some spotting within them. This site was very steep with majority above 36% slope down to bluffline at very edge of site. Velpar was applied within 50' of bluffs edge. Trees had been felled across it. Bear tracks were noted on road as well as deer tracks. There were excessive skidder trails due to steepness above bluffline which would channel any runoff to a protected stream at SW corner of site. I never observed any crew wash their hands before smoking cigarettes. None wore any gloves or other protective clothing. This was all the time I had to observe today so we all left for lunch at 1 PM. Unfortunately we were unable to observe final clean up of equipment at last site. Most certainly they did not wash out the Velpar stained clothes there. They were probably washed out at some laundromat somewhere else, thus contaminating even more area and washers someone else may use.

Sincerely,

Bennie McCall

P.S. Three months later I returned to reexamine the sites. At Robinson Road #1 I found 3 Ozark Chingapin saplings which had be poisoned by the broadcast application of Velpar. This is in violation of the threatened and endangered species act. ~~Photo~~ Photo's available upon request. We would appreciate your cooperation in seeing this doesn't happen again.

Thank you

Bennie McCall

38 Circle Drive
Hot Springs, AR 71901 10
November 1989

VMDEIS Comments

USDA Forest Service
1720 Peachtree Road NW
Atlanta, GA 30367

To Whom It May Concern:

I would like to register a few comments regarding the proposed vegetation management in the Ozark/Ouachita National Forest.

I, like many people in this area, am very concerned about the use of herbicides in vegetation management. I feel strongly that there simply is not enough information for anyone to say that these substances are harmless, either to wildlife or to humans. After reading Rachel Carson's Silent Spring again this past summer my concerns have been reinforced. I was not convinced otherwise at a recent informational meeting sponsored by the Forest Service here in Hot Springs. Two of my major complaints are the problems with bioaccumulation of herbicides, which we are only beginning to understand thanks to the disaster with DDT, and the possibility that, "acceptable accumulated risks" as defined now is based on data which includes large information gaps which are unacceptable.

I understand that the Forest Service is leaning toward burning as a preferred method for management, but I am equally concerned about the possibility of toxic gasses being emitted when herbicide treated vegetation is burned. As thorough as the Forest Service is now about tracking activity in the Ouachitas, it is possible that earlier treatment may not have been noted (especially if another company has been conducting timber harvest there!), and that concerns me greatly.

I would like to offer my support for the NCWA modified alternative D, with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, and manual methods preferred with an integrated pest management approach which would involve as little herbicide use as possible. This would reduce the potential for disaster down the line and also offer more people in this area possibility for employment, something we desperately need.

Thank you for attending to our concerns here in Arkansas. It's comforting to know that there is a possibility that our wants and desires are being considered.

Sincerely,

Rebecca Nail Reagan

Rebecca Nail Reagan

Response to Comments in Letter No. 638

From: Rebecca Nail Reagan

Comment No.

Response

- 1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
- 3 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 4 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.
- 5 Your preference for alternative modified D was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 6 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Dear Sirs and Madames,
 11/6
 I am completely opposed to any use of herbicides on public lands, and particularly on Forest Service land in the Ozark and Ouachita Mountains. Just the known and documented dangers of most herbicides constitute unacceptable risks to human, plant, and animal health; the extent of dangers to be discovered in the future cannot be guessed. It is clear, however, that introducing toxic human-made chemicals into any ecosystem is destructive and foolhardy. Preserving the long-term health of a forest by eliminating herbicides is far more important than increasing short-term timber yields.

2
 For this reason, I strongly encourage adoption of either alternative A or alternative D of the VMDEIS.

Sincerely,
 Diana Chace
 Meadowcreek Project
 Fox, AR 72051

Response to Comments in Letter No. 639

From: Diana Chace

Comment No.

Response

- 1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations, 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 See pages I-1 and I-2 of the Draft EIS for activities addressed and page II-12 of the Draft EIS for program area where treatments are projected to occur.
- 3 Your preference for alternative A or D was included in content analysis of all comments received.

112 Cheswood Drive
Hot Springs, Arkansas 71913
November 6, 1989

WMEIS Comments
USDA Forest Service
1720 Peachtree Road NW
Atlanta, GA 30367

Gentlemen:

As a member of the Audubon Society I am greatly concerned with environmental conservation and protection, for the benefit of people, animals, and plants.

In this connection I oppose management in the Ozark and Cuachita Mountains in Arkansas that relies heavily on pesticides and herbicides, and manual, mechanical and biological means for killing undesirable vegetation for pine timber management.

I do not consider dogwoods, redbuds, maple, oak and hickory undesirable vegetation in multi-purpose use of our national forests. I support multi-purpose use of our national forests.

I am not satisfied that the proposed practises will not gravely damage ground, water and air quality for multi-purpose use of our national forests, or, for that matter, for national forests regulated only or primarily for pine timber management.

Sincerely,

Mary M Chesnut
Mrs. James Wood Chesnut

Response to Comments in Letter No. 640

From: Mary M. Chesnut

Comment No.	Response
1	The vegetation management EIS considers several activities where vegetation control is needed (see Draft EIS pages I-1 and I-2, 2. Activities Addressed). This is not an EIS about pine management. For program areas covered by the preferred alternative, see page II-12 of the Draft EIS. Potential effects on multi-purpose uses of national forests are displayed in summary form in table II-2 (Balance of Resources) on pages II-60 and II-61 of the Draft EIS.
2	We agree in part, and we do not advocate treatment of any species unless it poses a threat or affects the species featured.
3	Potential effects on water are described in appendices B and C and in part G of chapter IV. Potential effects on air quality are described in part H of chapter IV. Numerous mitigation measures as discussed in chapter II are required to reduce environmental risks when using the various vegetation management methods.



Nov. 4, 1989

To Whom it may concern;
 I would like to express my opinion against use of herbicides or other poisons in our National Forest. I feel the risks are too great to spray these chemicals in our fragile watersheds. The large data gaps in what is proposed leave too much unknown and I am not willing for my family, farm and neighborhood to be at risk. Please take into account my strong objection to the continued use of poisons. I also feel the El Salvadorian workers sent to Newton Co. last

Circle One
 Parkettes, Arkansas 71606
 (501) 646-8708

Response to Comments in Letter No. 641

From: Susan Matkins

Comment No.

Response

- 1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

The problems you cite should be reported - at the time of occurrence - to the District Ranger so that it can be rectified. Mitigation measures in chapter II (section E.2.c) address these types of problems.

April to spray Telpen were
 not advised as to what
 they were spraying and not
 adequately protected. I think
 this is a violation of the
 workers rights and an example
 of how the Forest Service
 disregards individual human rights.
 A full investigation should take
 place. These workers had
 herbicide dripping from their
 backpack sprayers down their backs
 all day with no action taken
 to protect them. These workers
 did not spend a grain and did
 eventually try to protect themselves
 with trash bags. This is incredible!
 Provide your people
 Forest Service to do away with
herbicides in its plan!

Sharon Watkins
 HCR 72, Box 34
 Parton, Ar 72666

3 In the Final EIS we require that mitigation measures and other requirements be translated where bilingual crews are used. We have also included translation of mitigation measures in Spanish in the appendix of the Final EIS.

Nov. 5, 1989

Dear Mr Alcock,

My family lives near the Ozark National Forest and we are concerned about activities on the Forest that might effect our quality of life. Thus, we have thoroughly studied your Draft Environmental Impact Statement for Vegetation Management.

We are most disturbed by the proposed use of herbicides in your preferred alternative. Given the numerous data gaps you describe regarding the proposed herbicides "which result in uncertainty about reasonably foreseeable significant adverse human health effects" (IV-9,10) we do not see how you can reach the conclusion that "no critical information is missing that would prevent implementation of any alternative in this EIS" (IV-147).

We feel your risk analysis methodology cannot substitute for missing and incomplete data. Time and time again we've been told that a particular man-made chemical was safe only to find out later that it wasn't. For example, 2, 4, 5, T which the USFS used on this Forest a few years ago was found to contain a contaminant,
(over)

Response to Comments in Letter No. 642

From: Dave Spencer, Barbara D. Spender, Jesse Ball, Katie Spencer

Comment No.

Response

1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Dioxin, which proved to be the most toxic material produced by man. You state (iv-10) that it would take too much time and money to fill the data gaps and that the public would suffer increased hazard from wild fire, and production of goods and services if the EIS was delayed. However, your study makes it clear that there are other feasible management methods available to you. Even if there were not, we feel you would be betraying the public to continue using herbicides given so much missing information.

The mitigating measures you propose for herbicide application give us little comfort. These look good on paper but in the field mistakes are inevitable. In fact we know of two cases in the past few years in this District where required precautions were ignored.

The National Forests belong to the public. When you treat part of a Forest with herbicides your denying the public access to these lands, at least without risks to their health. Individuals could easily hike through a recently treated area and even eat foraged plants

Operational problems should be brought immediately to the attention of the District Ranger. Corrective action will be taken. By placing the emphasis on careful application of all vegetation management methods, the likelihood of incidents you describe should rarely occur.

3
 or game that has just fed on treated vegetation (the few postcard size notices that you post are easy to overlook).

We are concerned too about the effect of herbicides on "sensitive" individuals. This growing segment of the population is in affect denied access and enjoyment of the forests where poisons are used. Also, their health may be put in jeopardy. To us this seems similar to denying a handicapped person access to a public building. For sensitive individuals that may live within or adjacent to forest lands use of herbicides could represent a nuisance that would deny them the use of their property. Not only are the herbicides a problem, but many people are strongly sensitive to petrochemicals such as ^{with} the diesel fuel that would be mixed ^{with} the herbicides in some cases. Your proposed mitigating measures of limiting herbicide broadcast to within 300 feet of a private residence and 100 feet of a private property line would, we believe, be inadequate for many sensitive individuals.

The potential of herbicides to contaminate the surface and ground water is of particular

3
 Please note that in the Final EIS the percentage of broadcast treatment has been further reduced from the Draft. Additionally, margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

- 4 concern to us. The nature of the soils of this region and the fractured substrata increases this likelihood, yet the study includes very little analysis of potential impacts and risks to water quality. There are no water quality standards for most proposed herbicides since the EPA and the individual States have failed to set any standards for them. To base your standards for all herbicides on allowable levels for 2,4-D, is clearly inadequate.
- 5 It appears that a major reason for your preference of herbicides over manual methods of management is worker safety records. This is misleading however. The risk to herbicide applicators is long term. When illness does occur in these workers it will probably not be possible to trace it back to the herbicides. Also, while the danger of manual methods is limited to the workers, the risks of herbicides can extend beyond forest boundaries. Forest workers voluntarily accept the risks entailed in the work (at least to the extent that they are aware of them), but herbicides put
- 6

4 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, in granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

5 Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:

(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour L50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour L50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing" our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.

6 The analysis documented in the Draft EIS does not support these contentions.

Based on data presented in the Risk Assessment this concern was not felt to pose a reasonably foreseeable potential for causing significant effects. While continuing to monitor the scientific literature we have as yet no evidence to suggest that there is a legitimate concern in this area.

the general population at risk-involuntarily?
 In addition herbicides endanger flora and fauna to a greater degree than manual methods.

While the DEIS concludes that there is some risk involved in herbicide use (thus the need for m.itigating measures) the USFS does not assume liability for these risks. The chemical manufacturers all include the warning "use at your own risk" on their herbicides. Thus, the public is asked to accept the risks. Clearly, a large segment of the population is unwilling to do so.

Another significant drawback to USFS dependance on herbicides is that, it does not contribute nearly as positively to local economies as manual or mechanical methods of vegetation management. The USFS should actively try to help reduce the high under-employment and unemployment in this region. The U.S.F.S. seems to underplay this issue in comparing the alternatives.

We feel that if all of the costs of herbicide use (economic and environmental) were included in the USFS analysis it would be clearly apparent that all alternatives dependant on herbicides

Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

are unacceptable. Underestimating or failing to account for all costs puts non-herbicide alternatives at a distinct disadvantage, thus biasing your analysis.

- 8
- 9 We favor alternative D with the modifications proposed by the Newton County Wildlife Assoc. which eliminates the use of herbicides, reduces total acres of vegetation management, promotes the use of mechanical and fire methods on a low-intensity basis only, and depends primarily on manual methods of vegetation management with an emphasis on integrated pest management.

We feel that some of the drawbacks you describe for alternative D in your comparison of alternatives could be reduced - namely, erosion from grazing for pine release and lost cultural resources. You have proposed numerous mitigating measures for herbicide use - surely there are mitigating measures or alternatives to reduce the above problems.

In summary, we feel our National Forests should be managed for the

8 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond. We have considered only direct costs, but have considered them for every alternative. While we identify several kinds of indirect costs we chose not to quantify them in order to keep the analysis simple and easily understood. Indirect costs exist for every alternative and treatment method. It is inappropriate to assume they only exist for herbicide use.

- 9 Your preference for alternative Modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

long run, using least toxic and least invasive methods. Where major questions exist, such as the safety of herbicides, the U.S.F.S. should err on the side of caution. The diversity of our forests should be maintained - we owe it to future generations. Heavy timbering, clear-cutting and even-aged management are improper uses of the public forests. We are very concerned about what appears to be an ever greater emphasis by the F.S. on timber production at the expense of other required multiple uses.

We are glad to have this opportunity to voice our opinions and sincerely hope you will consider the views of the public in developing your final plan. You have noted that this is not a voting process, but we believe that if the American public were to vote on the use of herbicides in the forests they would vote a resounding no!

Sincerely,

Dave Spencer
Audrey Spencer
Katie Spencer

Kate Kuff
 Cave Mountain Road
 Pettigrew, AR. 72752
 November 2, 1989

U.S.D.A. Forest Service
 1720 Peachtree Rd., N.W.
 Atlanta, Georgia 30376
 Vegetation Managers of Ozark/Ouchita Mountains
 re; 10 year DEIS

I own, live on, and manage a large tract of heavily forested land in Newton County, Arkansas. I am surrounded by National Forest. I chose to live in this area of the United States for the richly diverse hardwood forest habitat. What unique place where so many species of trees and wildlife intertwine their lives. If one plant or animal is destroyed it affects the whole chain of organisms. This must be seriously considered in any management plan.

The DEIS for Vegetation Management has caused me great concern. There is a lack of consideration for the fragile interplay of life. The use of herbicides CANNOT be tolerated! My backyard is the National Forest, my pristine spring is close to the forest boundary, my children and I hike through these proposed management areas. I do not want to be POISONED! I do not want ANY chemicals applied on the woods. While there is not substantial research to prove their safety, there is ample data to show any chemical strong enough to kill a tree will harm our environment and endanger the whole living chain.

Also herbicide use, despite its dangers, does not contribute to the local economy, the way manual methods of vegetation management would. I do not need to discuss the poverty and unemployment problems of Newton County.

I am further opposed to any management methods on threatened, sensitive or endangered plant and wildlife habitat. Any tampering will threaten their existence. "Extinct means forever".

I am opposed to all clear cutting. This practice results in ugly scars, severe soil erosion, damage to watersheds and negative water quality, impassable hiking routes, and utter destruction of fragile habitats.

I feel that the risks of using herbicides is unacceptably high, the forest habitat too fragile, and my trees not mature enough to elicit any management actions. Therefore I propose Alternative A - NO ACTION!

Sincerely,

Kate Kuff

1
2
3
4
5
6

Response to Comments in Letter No. 643

From: Kate Kuff

Comment No.

Response

- 1 Potential effects of herbicides on water are discussed in appendix C and in part G of chapter IV.
- 2 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions.
- 3 Choice of treatment method has essentially no effect on local employment (see minor differences noted in table II-8 on page II-70 of the Draft EIS). Manual methods require regular retreatments to achieve the desired effect. This results in less effective management and increased costs. See also table II-7 and table II-8 regarding other risks associated with manual methods.
- 4 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.
- 5 Clearcutting issues are beyond the scope of this EIS. They are discussed in Forest Land and Resource Management Plans.
- 6 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received. Your preference for alternative A was also included in content analysis.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: All research on toxic chemicals was conducted using short term isolated studies. No studies on long term biological and ecological of herbicide use have ever been conducted. We should know why? by now that many of our preliminary (and considered the ~~exp~~... at the time) studies on chemical exposure effects, have been reversed after long periods of public use and exposure. How many Comments on Alternatives: Common herbicides, pesticides, and fungicides were used for years and then removed from the marketplace when detrimental effects of long term use were revealed? Dozens a year. You will answer. SO DON'T expose our natural environments to any more of this foolishness. Manage the forests with long term growth and maturity in mind. Why? on the order of producing mature trees at ages of 250-450 years. We should use manual methods of intensive management to produce mature trees of the highest quality. (use additional sheets as necessary)

1

2

3

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

The USFS operates at a loss using the present management techniques. We can turn our perspectives to long term management and actually make & and produce more local jobs.

Name HOWARD KUFF (North Arkansas State University) Forest
 Title Leave Mountain Rd.
 City Patterson Ar. State 72752 Zip Code
 (use additional sheets as necessary)

Response to Comments in Letter No. 644

From: Howard Kuff

Comment No.

Response

- 1 Many research results were used in compilation of appendix A which addresses short- and long-term effects. In every case these results are cited. One characteristic of the herbicides we are proposing for use is that they do not bioaccumulate. We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
- 2 Rotation age is an issue which is outside the scope of this EIS. It is discussed in Forest Land and Resource Management Plans.
- 3 Choice of treatment method has essentially no effect on local employment (see minor differences noted in table II-8 on page II-70 of the Draft EIS). Manual vegetation management methods require regular retreatment to achieve the desired effect. This results in less effective management and increased costs. Additionally, while manual methods may seem least invasive, they actually result in the most frequent and most severe accidental injuries (see table II-7 and table II-8).

645

1 I am against controlled forest and believe
all plants should be allowed to grow freely.
I am for alternative A.

Sincerely,
Carolyn Cloud

Response to Comments in Letter No. 645

From: Carolyn Cloud

Comment No.

Response

1 Your preference for alternative A was included in content analysis of all comments received. Amongst other possible effects, alternative A prohibits fulfillment of Forest Land and Resource Management Plan objectives. See table II-7 on pages II-68 and II-69 of the Draft EIS for a summary of other kinds of effects.

US Forest Service ISFS - CIM DEIS on
Czard / Quachata mts.

1 Alternative A or D
NO poison, no cutting, few roads
2 limited clearcutting is best for deer habitat
of the land.

HARRY Rankin

Rt 3 Box 470, Williamsville OK
74061

3 We tramp thru that forest alot.
Please do not use herbicides!

Response to Comments in Letter No. 646

From: Harry Rankin

Comment No.	Response
1	Your preference for alternatives A or D was included in content analysis of all comments received.
2	Cutting (harvest), road construction, and clearcutting are issues which are not within the scope of this EIS. They are discussed in Forest Land and Resource Management Plans.
3	An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search. Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

647

I want Alternative A for forest
management.
Vegetation should be allowed to grow
naturally.
No herbicides to kill hard woods, etc.

Germa Garrett
RT 9 Box 177
Mener Ar. 71913

Response to Comments in Letter No. 647

From: Germa Garrett

Comment No.

Response

1

Your preference for alternative A which does not use herbicides was included in content analysis of all comments received. Note that alternative D also avoids the use of herbicides.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.



Environmental Health Center — Dallas

8243 Walnut Hill Lane, Suite 208, Dallas, Texas 75231 • Telephone — (214) 368-4132 — FAX: (214) 961-6432

November 8, 1989

William J. Pitt, M.D.
FACG, FAALM
Pharmacology and Therapeutics
Pharmacokinetics and Clinical Chemistry
Environmental Medicine
University of North Carolina

Arthur R. Johnson, D.O.
FAALM
Internal Medicine
Obstetrics and Gynecology

Philip E. Stubbly, M.D., M.S.
Internal Medicine
Obstetrics and Gynecology

Gregory H. Rank, M.D.
C.C.F.P., D.L.B.M.
Primary Care
Environmental Medicine

Joel R. Butler, Ph.D.
Chair Psychology
Behavioral Science
Environmental Science

David Neudorfer, Ph.D.
Immunology
Environmental Science

Linda A. Gilmer, R.D., L.D.
Nutrition

Linda Carlisle, R.D., L.D.
Nutrition

Barb Hayward, R.D., L.D.
Nutrition

Cynthia Gorman, B.A., M.A.
Health Education
Occupational Therapy

Don Harshbarger, R.N.
Occupational Therapy

Steve McCorquodale
USDA Forest Service
1720 Peachtree Road, North West
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

We have had a chance to review the draft Environmental Impact Statement on Vegetation Management in the Ozark/Ouachita Mountains, Volumes 1 and 2.

On the basis of our experience with chemical exposures and chemical sensitivity we would like to simply make the following statement: Wherever it is possible we would highly recommend that herbicides be avoided.

We are learning more and more about the potential toxic effects of substances like the herbicides, not only to the people that apply them but also to those to who might subsequently ingest animal and plant products that contain these chemicals.

At the Environmental Health Center in Dallas we have considerable experience in the treatment of the patients who have become chemically overloaded or chemically sensitized because of exposures to substances of this nature. Frequently we can find significant levels of toxic chemicals on blood and fat analysis. The uncontrolled use of various kinds of toxic substances (of which there are probably now over 70,000 in common use) has greatly contributed to the emergence of the syndrome known as multiple chemical sensitivities, whereby patients have developed an intolerance and significant reactions to a whole variety of various chemical compounds.

Frequently such sensitivity extends to foods and inhalants that may be manifested in a hypersensitivity pattern that may not be caused by the traditional allergic pathways.

On reviewing the material contained in the impact statement we would suggest alternative A with certain modifications.

Response to Comments in Letter No. 652

From: Environmental Health Center

Comment No.

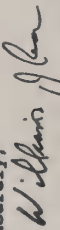
Response

- 1 Your preference for alternative A has been included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 We recognize the concerns which you express and have, in our mitigations, attempted to emphasize the need for safe application of minimal quantities of herbicides and only those herbicides that pose the least health risk. These measures are shown on pages 11-52-58 of the Draft EIS. Mitigation measure number 15 requires that workers displaying unusual sensitivity to a particular herbicide will be medically evaluated and reassigned if tested as sensitive.
- 3 Your preference for alternative A has been included in the content analysis of all comments received.

Page 2

We hope that these comments may be of help to you.

Sincerely,



William J. Rea M.D., F.A.C.S.
First World Professorial Chair in
Environmental Medicine,
Robens Institute of Industrial
and Environmental Health
University of Surrey, England

WJR:mis

USDA Forest Service
1720 Peachtree Rd. NW
Atlanta, GA. 30367

Nov. 4, 1989

Dear Mr. Alcock -

Thank you for the invitation to comment.

First I will address the issue of herbicide use.

I do not accept this risk and feel it is immoral for anyone to force it on me. Even a trace of any of those compounds makes my water infertile, my berries and game poison, my medicine roots no good.

1 More than a trace is worse.

2 Do not trust the chemical companies and their reports — they have misled and made us all sick before.

Please set a sane example for the highway department, utilities, neighboring farmers.

Let us not be compliant victims — yourselves included.

Response to Comments in Letter No. 660

From: Jean Feltmann

Comment No.

Response

- 1 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 2 Manufacturer's data, reviewed by EPA or published in the open scientific literature, was assumed to be valid in conjunction with other data. Where discrepancies were seen, they are noted in the document. The preferred alternative reflects management direction that increases effectiveness of treatments and precision of results (Final EIS sections I.A and I.B) with minimal risk to people and the environment (Final EIS sections II.H and IV.N).

②

this is also a civil rights issue. Daily more join the numbers of the environmentally ill whose over-loaded immune systems are sensitized to man-made toxins. The poisoned areas and watersheds are dangerous to them. If spraying continues these areas must be fenced and posted prominently. Leaving no warning but green dead leaves and the little 3X5 cards poses a serious hazard to adults, children, and animals; for the immunologically compromised population it can be life-threatening.

For all the herbicides listed, ~~immense~~ immunological and neurological impacts are not considered; data concerning these serious risks is absent.

If the Forest Service is sincere in concern for our safety, follow up the names and ~~contact~~ continuing medical records of those K1 Salvadorian workers who experienced a "worst case scenario" verpar accident (abuse?) last April in the Buffalo Ranger District. Do not add their histories to the list of data gaps. This follow-up would be useful, as long-term studies of herbicide

3 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

4 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.

In the Final EIS we require translation of our mitigation measures when non-English speaking crews are used. We have also included a Spanish translation in the appendices of the Final EIS.

③

bioaccumulation, full formulation cumulative effects, and carcinogenic potential are either absent or inadequate. Modeling and guesswork from rabbit and rat studies in order to estimate effects on humans are completely unverifiable. (Why torture laboratory animals, ~~anyway~~, when there is now available an increasing number of human subjects who have inadvertently entered into this great experiment?)

When a man takes on a job using the manual methods he chooses to accept an obvious voluntary risk. The Non-English speaking workers I met April were not warned of their risk. They were not even able to read the chemical's labels. Also, ~~subjecting~~ arbitrarily subjecting a wide population to an involuntary risk is certainly unacceptable.

5

We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

(7)

There are gaps, also, in your economic analysis.

6 Were the actual costs of herbicide use — damaged water, soil, biological diversity, human health, local jobs — were these factored into your economic analysis, you would not consider an alternative so dead dearly expensive.

7 Also — prescribed burning must not take place unless you keep documentation that the area has not been sprayed with any chemical compound that has potential for toxic by-product production due to heat.

I could go on, but I will close with this:

8 I do not appreciate the way this issue has been fragmented from the larger issues that are involved. It is time to stop creating problems by the ~~harvesting~~ harvesting and management methods and then wasting time trying to defend the solutions.

6 As explained on pages IV-127 through IV-130, only direct costs of any method were considered. Thus, each method was evaluated equally.

7 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.

8 The issue of harvesting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

⑤

9 I am further opposed to use of any vegetation management methods on threatened, endangered or sensitive (TES) plant and wild life habitat because, if left alone, these areas will have a more stable environment, fewer human disturbances, and more natural disturbances taking over to which TES species are adapted.

10 I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice.

I support, by reference, the NCSA modified alternative D with reduced total acres of vegetation management, mechanical and fire methods a low intensity basis only, primarily using manual methods with an integrated "past management approach leaving towards Alternative A, no action.

Thank you for the opportunity to comment.

Jean Feltmann
HC 72 Box 33
Parthenay, AR. 72666

9 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to loss of some species.

10 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.

11 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.

Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

664-727

We received 64 letters from High School students in Hot Springs. The above letters were all basically the same. See example letter below.

November 6, 1989

Ms. Candi Graves
217 Congress St.
Hot Springs, Ar.
71901

Dear Sirs:

It has been brought to my attention of the possible use of herbicides. It upsets me deeply to realize that you all would be willing to kill off all of the natural beauties of Arkansas, along with all of our wildlife, and possibly us.

1 I believe that there are safer ways and you all should find one. I don't want to wake up one day with our water poisoned, 2 all our dog woods, hickories, and oaks to be gone, nor do I want to loose our wildlife. Do you people not realize exactly what you're doing?

3 Until I have further proof that it is safe to use these herbicides, then hopefully you all will find a better way. Furthermore, until I see proof of this unsafe way of betraying nature then I will continue to be very much against this idiotic idea of yours!!!

If you have any desire to send me proof that this is safe then please do, if not for you then for me and my many other concerned friends--to ease our minds; that our wildlife and hardwoods will once again be safe.

Deeply Concerned,
Candi Graves

Candi Graves

Response to Comments in Letter No. 663-727

From: Students, Hot Springs High School

Comment No.

Response

1 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was unacceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

All vegetation management methods have inherent risks. Risks from other methods are described on pages IV-25 through IV-29. Note that manual methods are the least safe.

2 Effects on water are described in appendix C and in part G of chapter IV. Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

3 A copy of the Final EIS is being placed in your school library so that you may evaluate the analytical process used to determine what effects result from a variety of vegetation management treatments. Your opposition to herbicide use was included in content analysis of all comments received.

Mary K. Richards, M.D.
6208 REYMERE DRIVE • LITTLE ROCK, ARKANSAS 72207

11/4/89

Dear Mr. [unclear]:

The your plane Ozark +
Ozark mountains. I am
solidly against the use of
herbicides on these forests

1
As a physician I feel the environmental
and human risks have not
yet been adequately understood
and that the plan to use these
to control "hard woods" + brush
are not warranted considering
the possibility of risk

Sincerely

Mary K. Richards MS FAC

Response to Comments in Letter No. 728

From: Dr. Mary K. Richards

Comment No.

Response

- 1 Your opposition to herbicide use was included in content analysis of all comments received.
- 2 In this document we have complied with the Council on Regulations Environmental Quality regulations on incomplete and unavailable information (1502.22). There have been recent changes about how to evaluate incomplete or unavailable data. The Council on Environmental Quality issued regulations in November 1978 (40 CFR 1502.22) which required that a worst case analysis be performed to estimate risk of relevant missing information. In 1986, they modified this provision to require analysis of "...reasonably foreseeable significant adverse effects to the human environment..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) using the 1986 requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are similar to the worst case analyses required under the earlier regulations. Thus, we have attempted to address both sets of regulations in our analysis.
- Use of risk assessments is scientifically accepted, and ours has undergone extensive scientific review (Draft EIS, pages VI-3-4 and V-7-8). Modeling is used in the Risk Assessment to project incomplete or unavailable data. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, we have actually magnified the estimate of risk far beyond what is probable in the field. Where meaningful comparisons could be made between available data, quantitative analysis was done. Where necessary, analogy was used to develop these estimates. Otherwise, qualitative estimates were made. The Risk Assessment looks at a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures under each alternative. The effects of those exposures are evaluated based on what is known about the toxicity of each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community. The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 633. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were made. Acute toxicity testing on the full formulations is part of the available data on each herbicide. The chronic toxicity of the inert ingredients in each formulation is evaluated for those inert ingredients considered by EPA to pose a risk of health effects (Lists 1 or 2).

Dear U.S.F.S.

Nov. 2, 1989

I am writing this letter with great concern for our present methods of managing our National Forest in the State of Arkansas and the entire United States.

First I would like to say that I agree that we must manage our national forest. We must manage them conservatively, respectively and with the needs of our present peoples and future generations in mind. First they must be managed with the good of the Forest and its immediate environment being the foremost concern. The Forest must be managed with benefits to all concerned.

It must be profitable both economically and ecologically. Recently I read in your USDA Forest Service news letter "that you" give a new program "Global Re-leaf", where as you are about to clear cut and herbicide the tallest mountain in the Ozark Mountains. With-in a 10 mile radius of this mountain there are 10-15 clear cut sections, each being 40-100 acres. For some reason these two contractions in policy seem confusing. My family and I live in the middle of the National Forest, on the edge of a wilderness area. We walk many miles in our National Forest. You can not walk

Response to Comments in Letter No. 729

From: Suzanne Perry Yassy and Azalia Hayes

Comment No.

Response

1

As Indicated on page I-12 of the Draft EIS, issues such as silvicultural systems, harvest cutting methods, and landscape-wide diversity were addressed in Forest Land and Resource Management Plans (prepared under 36 CFR 219) and are outside the scope of this document. However, this EIS is prepared to conform to the requirements of the National Environmental Policy Act, and as such, it displays effects of vegetation management methods that may be used to implement Forest Land and Resource Management Plan goals and objectives on the Ozark and Ouachita Forests for the programs detailed in section I-A. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. The Plans set overall direction for managing the national forests.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

in a clear cut area. Its sad!
Butchard! Scared that our present
policy of using herbicides on
these managed areas leaves one
to truly question our present
management policies

It is my understanding
that extensive "data gaps in
the human risk and wildlife
risk assessments as stated on
pages IV-8+9 and III-66-67, 1011,
do truly exist. My family
and I swim in the creeks

down stream from these managed
areas. While walking we drink
from mountain springs. My 12 year
old son hunts quail and rabbits
that eat vegetation from these
herbicides areas. I do not believe

there is an "acceptable risk when
it comes to the future of the pool
of our nation's water and we
have but the health and
intelligence of our children.
There is no "acceptable risk"
nowhere where they are concerned,
young growing bodies & minds.

There are just data gaps
in the information used
for developing the risk
assessment portion of IMDEIS
and scientific uncertainty
in modeling used to fill those
gaps was not discussed

2 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

3 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

4 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

5 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

6 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

7 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking we identified the lack of data and explained how the Risk Assessment dealt with the gap.

2

in the document. The chemical companies that make the herbicides have warning on the label which reads: "use at your own risk". Leaping them free of any responsibility for future repercussions. There are no water quality standards set for most herbicides planned for use in these managed areas. The majority of people living in these areas get their drinking water from shallow wells or mountain springs.

We all, everyone of us, must look at the amount of chemicals we use in our daily lives, from the simplest, to the most complex. Every where we turn look listen you hear of our great problems with chemical pollution everywhere on the face of the earth.

We look to our government agencies, paid for with our tax dollars to act in the best interest of our peoples and the environment they live in. We live here in these Forests, so this issue of using herbicides to manage our National Forest is of utmost, immediate concern to us and our community. Kind. Herbicide use of any kind is an unpreceptable management policy.

6

6

Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:

(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.

My family and I support the N.C.W.A.'s modified alternative D, with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management program approach, learning towards alternative A, no action.

I am enclosing several letters written by my 8 year old daughter, 12 year old son and their friends. We discussed this issue in length and read your information on the subject. They all live in these Ozark National Forest lands. They wish to grow up as healthy adults and raise healthy children. They are all very concerned about the future that the present adult population is leaving for them. Responsibility to let ~~it~~ ^{us} ~~be~~ ^{our} responsibility to leave them a good one. Thank you for this opportunity to comment.

Sincerely,
Suzanne Perry, Yarny and Goshart Hayes

P.O. BOX 52
Petigrew, AK. 72752

Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Mr. John M. Curran, Supervisor
 Ouachita National Forest
 P.O. Box 1270
 Hot Springs, Ar. 71902

Dear Mr. Curran:

We are strongly opposed to the
 use of herbicides in the Ouachita
 National Forest. Any necessary vegetative
 or pest management should be by hand,
 biological or mechanical methods. We
 believe in a free forest.

Sincerely,

Patty & Paul Moser
 6305 S. 90 East Ave
 Tulsa, Ok. 74133

Response to Comments in Letter No. 730

From: Patty & Paul Moser

Comment No.

Response

1 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I am not acquainted with the scientific analysis of the various vegetative management alternatives that you have, but I would favor retaining all vegetative control measures, both mechanical and chemical.

Comments on Alternatives:

that are legal and approved by the EPA. It seems to me that it is difficult to anticipate all future uses and priorities for our public lands, and that it would be wise to preserve all

Other: alternative methods of vegetative management that we can, in order to be ready for what ever the future holds & to give us maximum flexibility.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Tear at perforation

Name: Ralph A. Arnold - Retired
 First MI Last (Organization) Forester
1304 Cypress St.
 City State Zip Code
Crossett, Ark. 71635

Response to Comments in Letter No. 731

From: Ralph A. Arnold

Comment No.

Response

1 Your preference for retaining all legal and environmentally sound tools for use in vegetation management has been included in our content analysis of all the comments received. Alternative H provides for analysis of the full range of treatments and their effects.

Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. The preferred alternative (F) represents a set of methods and tools which allow us to accomplish goals and objectives of Forest Plans while at the same time considering the results of our analysis and the full range of public comment. Flexibility has been retained by our provisions for incorporating new data whenever it becomes available.



STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION
PO BOX 3276
LITTLE ROCK • 72203

OFFICE OF
INTERGOVERNMENTAL
SERVICES
PHONE (501) 682-1074
FAX (501) 682-1086

November 14, 1989

Mr. Steve McCorquodale
Leader, Vegetation
Management EIS Team
USDA Forest Service
1720 Peachtree Rd., NW
Atlanta, Georgia 30367

Re: EIS No. Vegetation Management in the Ozark/Ouachita Mountains

Dear Mr. McCorquodale:

The State Clearinghouse has received the above Document pursuant to the Arkansas Project Notification and Review System.

To carry out the review and comment process, this document was forwarded to members of the Arkansas Technical Review Committee. Resulting comments received from the Technical Review Committee which represents the position of the State of Arkansas are attached.

The State Clearinghouse wishes to thank you for your cooperation with the Arkansas Project Notification and Review System.

Sincerely,

Joe Gillespie
Joe Gillespie, Manager
State Clearinghouse

Enclosure
pc: Randy Young, AS&HCC

JG:TC:cb/0030N



Arkansas Soil and Water Conservation Commission

J. Randy Young
Director

ONE CAPITOL MALL
SUITE 300
LITTLE ROCK, ARKANSAS 72201

PHONE 501-682-1611

RECEIVED
NOV 14 1989

INTERGOVERNMENTAL
SERVICES
STATE CLEARINGHOUSE

MEMORANDUM

TO: Mr. Joe Gillespie, Jr., Manager
State Clearinghouse

FROM: J. Randy Young, P.E., Chairman
Technical Review Committee

SUBJECT: EIS NO. VEGETATION MANAGEMENT IN THE
OZARK/OUACHITA MOUNTAINS

DATE: November 13, 1989

Members of the Technical Review Committee have reviewed the referenced Environmental Impact Statement. Enclosed are copies of comments from members of the Committee. The opportunity to review this document is appreciated.

JRY:sic
Enclosures
cc: Members of the Technical Review Committee



STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION
P.O. BOX 2370
LITTLE ROCK - 72203

REC'D
12/6-81
DUE 9/17-89

RECEIVED
SEP 18 1989

OFFICE OF
INTERGOVERNMENTAL
SERVICES
PHONE (501) 371-1004

SOIL AND WATER
CONSERVATION COMMISSION

Memorandum

TO: All Technical Review Committee Members
FROM: Joe Gillespie, Manager - State Clearinghouse
DATE: September 15, 1989
SUBJECT: EIS No. Vegetation Management in the Ozark/Ouchitza Mountains
DRAFT EIS

Please review the above stated document under provisions of Section 404 of the Clean Water Act, Section 102 (2) (c) of the National Environmental Policy Act of 1969 and the Arkansas Project Notification and Review System.

YOUR COMMENTS SHOULD BE RETURNED BY October 6, 1989 TO
MR. RANDY YOUNG, CHAIRMAN - TECHNICAL REVIEW COMMITTEE, #1 CAPITOL MALL, SUITE
2-D, LITTLE ROCK, ARKANSAS 72203.

If we have no reply within that time we will assume you have no comments and will proceed with the sign-off.

- SUPPORT DO NOT SUPPORT (COMMENTS ATTACHED)
- COMMENTS ATTACHED SUPPORT WITH FOLLOWING CONDITIONS
- NO COMMENTS NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PC&C ONLY)

SIGNATURE [Signature] AGENCY Soare DATE 10/19/89
IGS/SC 0100-006-85



STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION
P.O. BOX 2276
LITTLE ROCK • 72203

OFFICE OF
INTERGOVERNMENTAL
SERVICES
PHONE (501) 271-1874

Memorandum

TO: All Technical Review Committee Members
FROM: Joe Gillespie, Manager - State Clearinghouse
DATE: September 19, 1989
SUBJECT: EIS No. Vegetation Management in the Ozark/Ouchitza Mountains
Appendices Volume II

RECEIVED
SEP 20 1989
SOIL AND WATER
CONSERVATION COMMISSION

12/6/89

Please review the above stated document under provisions of Section 504 of the Clean Water Act, Section 102 (2) (c) of the National Environmental Policy Act of 1969 and the Arkansas Project Notification and Review System.

YOUR COMMENTS SHOULD BE RETURNED BY (October 10, 1989) TO -----
MR. RANDY YOUNG, CHAIRMAN - TECHNICAL REVIEW COMMITTEE, #1 CAPITOL MALL, SUITE 2-D, LITTLE ROCK, ARKANSAS 72203.

If we have no reply within that time we will assume you have no comments and will proceed with the sign-off.

- SUPPORT DO NOT SUPPORT (COMMENTS ATTACHED)
- COMMENTS ATTACHED SUPPORT WITH FOLLOWING CONDITIONS
- NO COMMENTS NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PC&C ONLY)

SIGNATURE: [Signature] AGENCY: Seas DATE: 9/19/89
IGS/SC 0400-086-85



STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION
2 BOX 3370
LITTLE ROCK • 72203

OFFICE OF
INTERGOVERNMENTAL
SERVICES
PHONE (501) 371-1074

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SEP 19 1989

SOIL AND WATER
CONSERVATION COMMISSION

Memorandum

TO: All Technical Review Committee Members
FROM: Joe Gillespie, Manager - State Clearinghouse
DATE: September 15, 1989
SUBJECT: EIS No. Vegetation Management in the Ozark/Quachita Mountains

Please review the above stated document under provisions of Section 364 of the Clean Water Act, Section 102 (2) (c) of the National Environmental Policy Act of 1969 and the Arkansas Project Notification and Review System.

YOUR COMMENTS SHOULD BE RETURNED BY OCTOBER 6, 1989 TO _____
MR. RANDY YOUNG, CHAIRMAN - TECHNICAL REVIEW COMMITTEE, #1 CAPITOL MALL, SUITE 2-D, LITTLE ROCK, ARKANSAS 72203.

If we have no reply within that time we will assume you have no comments and will proceed with the sign-off.

- SUPPORT
- NOT SUPPORT (COMMENTS ATTACHED)
- COMMENTS ATTACHED
- SUPPORT WITH FOLLOWING CONDITIONS
- NO COMMENTS
- NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PC&C ONLY)

SIGNATURE [Signature] AGENCY Geology DATE 9/19/89
IGS/SC 0100-006-55



STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION
P.O. BOX 2379
LITTLE ROCK • 72203

OFFICE OF
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SERVICES
PHONE (501) 571-1024

RECEIVED
OCT 10 1989

SOIL AND WATER
CONSERVATION COMMISSION
RECEIVED
SEP 19 1989

Memorandum

TO: All Technical Review Committee Members
FROM: Joe Gillespie, Manager - State Clearinghouse
DATE: September 15, 1989
SUBJECT: EIS No. Vegetation Management in the Ozark/Duachita Mountains

Please review the above stated document under provisions of Section 64 of the Clean Water Act, Section 102 (2) (c) of the National Environmental Policy Act of 1969 and the Arkansas Project Notification and Review System.

YOUR COMMENTS SHOULD BE RETURNED BY October 6, 1989) TO -----
MR. RANDY YOUNG, CHAIRMAN - TECHNICAL REVIEW COMMITTEE, #1 CAPITOL MALL, SUITE
2-D, LITTLE ROCK, ARKANSAS 72203.

If we have no reply within that time we will assume you have no comments and will proceed with the sign-off.

- SUPPORT DO NOT SUPPORT (COMMENTS ATTACHED)
- COMMENTS ATTACHED SUPPORT WITH FOLLOWING CONDITIONS
- NO COMMENTS NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PC&C ONLY)

SIGNATURE Steve Brown AGENCY ADPC&E DATE 2/16/89

IGS/SC C190-006-EE



STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION
P.O. BOX 3376
LITTLE ROCK • 72202

OFFICE OF
ENVIRONMENTAL
SERVICES
PHONE CALL 371-1674

RECEIVED

OCT 10 1989

SOIL AND WATER
CONSERVATION COMMISSION

Memorandum

TO: All Technical Review Committee Members
FROM: Joe Gillespie, Manager - State Clearinghouse
DATE: September 19, 1989
SUBJECT: EIS No. Vegetation Management in the Ozark/ Ouachita Mountains
Appendices Volume II

Please review the above stated document under provisions of Section 504 of the Clean Water Act, Section 102 (2) (c) of the National Environmental Policy Act of 1969 and the Arkansas Project Notification and Review System.

YOUR COMMENTS SHOULD BE RETURNED BY (October 10, 1989) TO -----
MR. RANDY YOUNG, CHAIRMAN - TECHNICAL REVIEW COMMITTEE, #1 CAPITOL MALL, SUITE 2-C, LITTLE ROCK, ARKANSAS 72203.

If we have no reply within that time we will assume you have no comments and will proceed with the sign-off.

- SUPPORT DO NOT SUPPORT (COMMENTS ATTACHED)
- COMMENTS ATTACHED SUPPORT WITH FOLLOWING CONDITIONS
- NO COMMENTS NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PC&C ONLY)

SIGNATURE Steve Adair AGENCY ADPC/E DATE 10/19/89

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

800 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209
PHONE: (501) 562-7444

RECEIVED

OCT 10 1989

SOIL AND WATER
CONSERVATION COMMISSION

October 4, 1989

Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Road, NW
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

The Department has reviewed the draft EIS entitled Vegetation Management in the Ozark/Ouachita Mountains. The document, along with the Briefing session by your team, has helped to answer many of the earlier questions discussed by the PPC&E staff.

In reviewing the section on herbicide use and risk assessment, it is documented that the selected herbicides possess low aquatic toxicities and therefore should not present a serious threat to the environment. Aerial application of herbicides is not proposed in lieu of manual applications. Manual applications are probably more prone to human error with possible spills and site specific incidents, but are very target specific. The low toxicities and the specificity of the herbicides should not cause serious widespread effects.

The mechanical methods of control would, for the most part, present a high potential for sedimentation in nearby streams. This method should be avoided unless absolutely necessary for management.

Prescribed fire treatments, if of the low intensity types, should cause little environmental effect. The primary effect would be smoke, which would limit visibility and raise concentrations of some airborne pollutants. Since the frequency of treatment is low, the contribution to the environment would be minor except in the affected area. However, fire use should be minimized to prevent smoke effects.

Manual methods should have no noticeable effects to the environment. Biological methods should, and essentially have, be eliminated from further consideration.

The Department, therefore, would support an alternative that would maximize herbicide and manual methods, minimize prescribed fire, and eliminate mechanical and biological methods. The problems of sedimentation in the aquatic environment and smoke would be minimal

Response to Comments in Letter No. 732

From: Arkansas State Clearing House

Comment No.

Response

1 See Letter No. 65 and our response to comments.

Page 2

from this type of control program. With these criteria, alternative B (assuming A is not viable) would appear to have the least environmental effects. Alternative B is lowest on mechanical and fire treatment acres and eliminates biological treatment. Alternative B is also lowest in the number of acres treated, thus minimizing access caused pollution. Alternative B appears to be the best management alternative proposed.

Thank you for the opportunity to comment.

Sincerely,



Dick Casant, Chief
Technical Services Division



BILL CLINTON
GOVERNOR

Arkansas DEPARTMENT OF HEALTH

4015 WEST MARQUAM STREET • LITTLE ROCK, ARKANSAS 72205

TELEPHONE AC 501 681-3000

M. JOYCE V. ELDER, M.D.
DIRECTOR

September 29, 1989

Mr. Randy Young, Chairman
Technical Review Committee
#1 Capitol Mall, Suite 2-D
Little Rock, AR 72203

RE: Draft Environmental Impact Statement
Vegetation Management in the Ozark/Ouachita Mountains

Dear Mr. Young:

The above referenced document has been reviewed. It appears that the preferred alternative would minimize soil erosion and herbicide application in the national forests. There are many public water supply reservoirs located in or having their watersheds in these national forest lands, as well as water supply intakes located along streams flowing through or adjacent to these lands. As our agency administers the public water supply program in this state, we will certainly lend our support to projects which can help protect the quality of waters being used as sources of drinking water.

We do request that the buffer zone for both ground and aerial applications of herbicides around lakes and streams that are known public water supply sources be increased to 300 feet. This should be done to conform to Department of Health regulations for public water supplies and to ensure a greater degree of protection.

If you have any questions please advise.

Sincerely,

Harold E. Seifert

Harold E. Seifert, P.E.
Director
Division of Engineering

HES:mt

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OCT 5 1989

SOIL AND WATER
CONSERVATION COMMISSION

"No Equal Opportunity Employer"

2 Mitigation measure 23 on page II-57 of the Draft EIS responds to the need to protect public water sources consistent with the results of the analysis. If 300-foot buffers are required by State Department of Health regulations, specific language of that regulation will be followed under the "Forests may be more restrictive..." and mitigation measure number 4 on page II-41 of the Draft EIS. We note, however, that our modeling does not support the need for such a wide buffer.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: A very thorough treatment of the issue with a lot of data brought together in one place. You are to be thanked for producing a useful reference document at least.

I think that herbicide use should be done with care but that restrictions should be imposed with due regard to common sense as to what the safety risk really is rather than from an emotional reaction that is not based on scientific data.

2 Comments on Alternatives: Please send me a copy of your final EIS.

Other: Thank you!

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Last (Organization) Ray Kreig
MI State
Street R.A. Kreig & Associates, Inc.
1503 West 33rd Avenue
Anchorage, Alaska 99503
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 733

From: R. A. Kreig & Associates

Comment No.

Response

- 1 The Interdisciplinary Team is pleased you find the EIS a useful reference document.
2 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.
3 Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I am opposed to timber use on public lands because it industrially exposes sensitive people who have a lower than normal reaction to chemicals.

Why? Because I have been sensitized to some chemicals I have had to use in my work. My immune system has been unable to recover I think from a spring and do not want any risk at all to our grandchildren.

Comments on Alternatives:

The health risk is not worth the proposed timber yield per dollar spent improvement by using herbicides.

Why? If people become ill from contaminated groundwater the cost of their illness affects the population as a whole through loss of productivity of work and medical costs paid by taxpayers for low income, elderly or permanently disabled people.

Other: I can understand why people trying to get high timber yields would want to ignore the risks of herbicides to achieve their goals, but I feel this is not responsible management. Had we made this further why? for us to use wisely. Herbicides are more certain to destroy.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
DAVID LOUIS KIENCZAR
Address: 14270 Box 314
City: Superior OR 97134
State: Zip Code

Tear at perforation

Response to Comments in Letter No. 734

From: David Louis Klenczar

Comment No.

Response

1 Your opposition to herbicide use was included in content analysis of all comments received.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Abstracts DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

In addition, we require workers displaying unusual sensitivity to be medically evaluated. See mitigation number 15 on page II-55 of the Draft EIS.

2 Timber yield is one possible consideration for doing vegetation management. National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

- 3 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers ■ we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though... However you decide to respond, please help us by making specific and meaningful comments... Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice on public lands.

2 WADZIS fails to consider a full range of alternatives per NEPA when it did not include an integrated pest management alternative such as presented by Norma Greir in Region 6 emphasizing prevention for need of and allowing natural processes to work, employing least invasive and least toxic methods, and using follow-up monitoring and evaluation to help fill in data gaps. It failed to consider a full range of alternatives when it did not include an alternative with reduced number total acres other than alternative A. These total acres to be treated are tiered to LRRP's which are currently under appeal and revision concerning overreliance on even aged management techniques which necessarily involve more site prep and TSI work.

3 Therefore I support, by reference, the NCVH modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with integrated pest management approach leaning towards Alternative A, no action.

4 >>> Finally, I do not believe the risks are acceptable for herbicide use and do not believe that public lands should be managed with them. Thank you for this opportunity to comment.

Other: Why must somebody who will not accept anything Mary Smart

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Mary Smart (zaton)
Street: HCR 72766 Box 72
Wittier, AR 72776
City: State: Zip Code:

Tear at perforation

Response to Comments in Letter No. 735

From: Mary Smart

Comment No.

Response

1 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.

2 Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides in a possible treatment method.

Alternatives A and B reduce acreage and alternative H increases acreage from Forest Land and Resource Management Planning levels. Any revisions or changes in Plan direction can easily be incorporated into any preferred alternative and acreage can be adjusted if necessary. We evaluated programs as they existed at the time of our analysis, not as they might be following some uncertain length of time, but we retained flexibility to adjust. Discussions of even-aged management is beyond the scope of this EIS.

3 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

4 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

November 5, 1989

U.S.D.A. Forest Service
1720 Parkway Rd. NW
Atlanta, Ga. 30367

Draft #6
Att. Room 3625

Dear Folks;

I've seen your Draft Environmental Impact Statement - Vegetation Management in the Eastern Ozark/Great Smoky Mts. Summary - Management Bulletin R 8 MB 73 and I've seen the Red Alert put out by the N.C.W.A. - Oct/89. I agree. Curious - 72648 and I'm so concerned as they seem to be about the gaps in your herbicide study.

They felt alternative A or D would be better than the others but I'm being honest and not sarcastic when I say I wonder if the forestry service knows what a low intensity fire is.

The forests were spread under government protection so future generations would have a variety of trees, vegetation, herb and wildlip in all stages of development and not as mandated from Congress to fill the pockets of the lumber companies which use the people for out work. Big machines run the ground and trees of all ages are cut and over ground water is killed by herbicides that get into it through the deep fractures in the ground.

Response to Comments in Letter No. 736

From: Hortence S. Leblmon

Comment No.

Response

- 1 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.
- 2 Low intensity fire is defined in the EIS, and generally results in flame lengths about 2 feet.
- 3 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.
- 4 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

5 Put people to work cutting the trees you need to thin (let a few old trees live until they rot); animals need some higher in trees; don't clearcut or make huge roads?

You should be ashamed if you're for not considering money for more tourist plans.

If they sound foolish, but it is better to have a "singalong" in the woods or a class under the stars or a plant identification class than tractor tracks and much worse.

You may say the 6th is the best day. I say, you hear an incomplete report and you all had looking out for what is best for "we the people" and the forests.

If you think the "sing along" is foolish, how do you think I feel? you are all out to get the trees.

Sincerely,
Hortense J. Salmon
P.O. Box 169
Forgettenville, Arkansas
72702-0169

6 P.S. It is now the morning of the 6th and I just read alternate. I think you grant & even you state maximum visit to humans, wildlife, and non-tame plants so there is risk with the use of herbicide so you really need to restudy the possibilities of more tourists for

5 Each Forest Land and Resource Management Plan specifically analyzes and addresses the effects of silvicultural systems, harvest cutting methods, and road construction activities.

6 Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

See our response to comments in Letter No. 3, Comment No. 2 regarding your concerns about groundwater.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: I oppose any future use of herbicides or other biological agents to control vegetation in the National Forests. The accumulation of herbicides is shown-up in liver and kidney tissues in over 200 species of wildlife in Sweden. Wildlife is an important part of our world food chain. We are what we eat and why? Drink and breathe. Your other alternatives provide more or less suitable ways. Herbicide use is unacceptable to me, as when I rely on stream water. The best filter in the world cannot remove herbicides, being of any it work either. Please don't contribute to my Cancer, fish, birds, etc. Comments on Alternatives:

2 Please use alternative D. When you can create vegetation I will be the first to vote for you to manage it. By that time I'll be satisfied you have the handle on it and would support your efforts to correct mistakes. Then again, if needs it exist why? In nature if it was a mistake so you would let her to manage it any way. If it works lower alone. There is nothing in our forests which exists naturally that is not in harmony with the overall natural scheme of things whether we understand them or not. I (we) need money, but more from those folks who use the forest use selective logging and other purposes of you must manage timber even if you log/extract more and more either, i.e. P reserves or other cuts. My second choice is D. It will create more jobs and much of the hard work's piece could be used for Grod wood and for wood rather than wood. Manual methods have less impact on the environment. Manual methods would put more money in our hands with high unemployment as necessary)

3 Other: for recreational timber in other purposes of you must manage timber use selective logging and other purposes of you must manage timber even if you log/extract more and more either, i.e. P reserves or other cuts. My second choice is D. It will create more jobs and much of the hard work's piece could be used for Grod wood and for wood rather than wood. Manual methods have less impact on the environment. Manual methods would put more money in our hands with high unemployment as necessary)

4 To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

Name: First A. Last Matthews
P.O. Box 2188
Street
City Dunsmuir, CA State CA Zip Code 95821

Tear at perforation

Response to Comments in Letter No. 737

From: John A. Matthews

Comment No.

Response

1 The liver is the organ in the body which "detoxifies" blood. While reporting the presence of up to 6 ppm of herbicides in the liver, it was never made clear if this was transient removal of materials recently ingested/digested/circulated or if this was storage material. Since we have found no evidence of accumulation of these herbicides in our literature review, we find no evidence to support commenter's contention that presence in a flitter (the liver) = storage and accumulation in that location.

2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

3 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

4 Your preference for alternative A was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

5 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).

5

Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I am opposed to any future use of herbicide by the USFS for vegetation management because

1 IT IS MY PERCEPTION THAT THE RISK IS HIGH & UNJUSTIFIED IN RECOMMENDING THAT OUR PUBLIC LANDS NOT BE MANAGED ANY MORE. THE CHEMICAL COMPANIES DON'T NEED ANY MORE HERBICIDES. THE NEW USES OF HERBICIDES WOULD BE COMPATIBLE WITH MANUAL METHODS WHICH WOULD ADD TO LOCAL ECONOMY BY PROVIDING EMPLOYMENT OPPORTUNITIES.

2 I LIKE ALTERNATIVE B. WE CAN NOT MANAGE WILDERNESSES LIKE WOODS CITY PARKS. IF SOME OF THE VEGETATION YOU PROPOSE TO "MANAGE" WERE STUDIED FOR THEIR BENEFIT RATHER THAN THEIR MISMANAGEMENT, WE MAY BE SOME GOOD COULD COME FROM THEM, PARTICULARLY THE HARDWOODS.

3 WHY? THERE ARE FEW UNSPOILED AREAS LEFT. ALTERNATIVE A WOULD MANAGE CONTROL ITSELF. IN THE END NATURE TAKES ITSELF TO A BALANCED SYSTEM. TOURISM IS THE LARGEST INDUSTRY IN OUR STATE. FIGURES OUT WAYS TO INCREASE THIS REVENUE & THERE WILL BE LESS NEED TO HARVEST OUR FORESTS FOR REVENUE. PINE TREES ARE NOT HARVESTED.

4 MY SECOND CHOICE IS ALTERNATIVE D. MUCH OF WHAT YOU PROPOSE TO MANAGE, HARD WOODS IN PARTICULAR DO HAVE VALUE EVEN IF FOR FIRE WOOD. D WILL PROVIDE MORE JOBS & MONEY LOCALLY THAN IS REALIZED BY VESTED INTEREST LUMBER COMPANIES. D ALSO HAS LESS IMPACT ON THE ENVIRONMENT.

5

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Michelle L. Matthews
 First MI Last (Organization)
R.O. BOX 21160
 Street
Russellville Ark 72801
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 738
 From: Michelle L. Matthews

Comment No.

Response

- 1 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- 3 Your preference for alternative A was included in the content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 4 Comment noted. We state in chapter III, page III-11 of the Draft EIS, that vegetation management is not generally practiced in wilderness areas. There are circumstances where natural or prescribed fire may be considered so as to protect threatened and endangered species or reduce unnatural fuel buildups. These decisions will be based on appropriate site-specific analysis and goals and objectives contained in individual Forest Land and Resource Management Plans.
- 5 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: The concept of "acceptable risk" is unacceptable. The use of herbicides, their interactions and the resultant damage to the environment can never be fully understood until it is possibly too late. When ~~there~~ there are other options available such as manual, I cannot see the justification for why? the use of herbicides. This use and its water implies already have the burden of the many drains and ditches, furby and bog operations. To assume that there is an adequate "buffer zone" between the target areas and water Comments on Alternatives: Siphon is irresponsible. Some or later it will get into the water supply. The terrain of this area with its steep slopes allows rapid runoff especially after heavy rains, and it all runs together. The Why? bottom line is that what we put on the earth is what we eat and drink. As long as there are alternatives such as manual management which actually benefits the area economically, I will remain Oppose: I am adamantly opposed to the use of herbicides on our National Forest lands.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

CHRIS H.B. KUNKLE

Name: First MI Last (Organization)
 CHR 72 Box 85

Street
 PRAIRIEVIEW AVE 72666

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 739

From: Chris H. B. Kunkle

Response

Comment No.

- 1 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 2 The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.
- 3 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 4 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

Dear Sirs,
my husband use to work spraying chemicals in the pine release. He would come home with purple spray all over his pants, shoes, socks and even his feet were purple this dye color was on his skin for 8 weeks after his job ended. Also the chemical leaked thru the tank he carried and it was also on his back.
I would wash his clothes and hang them on the clothes line. Some times I would not get them in, intine of a rain. From where these clothes hung outside on the line where the clothes dripped (After washing) killed a line of grass, where the water from the washer went to our septic tank. trees in our yard died. where my husband stepped in dew on mornings his tracks left dead grass. it was like acid steps. This was after the boots were dry. Sometimes tanks were left in the back of the truck. Rain washing out the tank left a dead strip of grass, trees, and anything else in the path of the rain water. Dead a strip 10ft wide and 30 ft. long. They were never told not to get the stuff on them. when ever a forest service person showed up they wore their away outer clothing to protect them selves. the workers never did. you can always tell when spraying season was in. every one had purple pants and shoes. Sick people leg the old fashioned way with mules or horses, using axes and saws. without need more chemicals. Clearview forests natural use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

ARKANSAS
is A Natural!

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).
Name: First MI Last (Organization)
Judy A. Newmon
Box 76A
Newton County, MS
Wildlife
PSSW.
State Zip Code
Arkansas 72856

Tear at perforation

Response to Comments in Letter No. 740

From: Judy A. & Troy A. Newmon

Comment No.

Response

1

Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Please register my deep concern that there has not been enough time to see the long term results of chemical use in our forest.

Why? 10 years ago I gave birth to a child who had many physiological difficulties. We never found at the exact reason but during the long search many chemical exposures were uncovared. My mind opened to so many new possibilities. It is quite clear that we have not had the time to ~~Comments on Alternatives:~~ search & wait for the far reaching consequences of such practices. If a child in utero could be affected so severely then to consider the more subtle affect to older persons is of great concern — too many whys transwended.

Why? Any solution involving an alternative free of chemical use is the goal we should have as highest priority. Our second highest goal should be protection of the mother earth and most precious (to only name) the blessing of a clear cool stream headary through a rich forest with fresh pure air is quickly becoming an "unusual place." Why? Please choose a wide alternative — either A or D.

1

2

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Barbara R Last Vasiuski
 MI AR Box 93
 Street Putnam AL 72666
 City Putnam State AL Zip Code 72666

Tear at perforation

Response to Comments in Letter No. 741

From: Barbara R. Vasiuski

Comment No.

Response

1 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

2 Your preference for alternative A or D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

This is all very well done but no matter what is decided if it isn't implemented correctly we have a national treasure our forest and wildlife. Paper companies must be the ones to do the work and they have the materials and equipment but they must be monitored closely. They have shown a lack of commitment toward the habitat needs of our wildlife and public sentiment. Study done for Dear Sirs,

I have no problems with producing a renewable resource, wood. I do have problems with our National Forest becoming a Pine Tree Farm.

I would like to see selective cutting and no spraying. Why simply do not destroy habitat that supports all game (wildlife) and show a more natural mix of hardwoods plus pine for color, beauty along with soft crops. Spraying destroys indiscriminately and may cause problems in the long haul. Paper companies don't seem to care - I see their work they don't follow the rules.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: J. Lewyde Tanner
First Last (Organization)
Street: 5 East Lake DR
City: North Little Rock, AR 72116
State Zip Code

Tear at perforation

Response to Comments in Letter No. 742
From: J. Lewyde Tanner

Comment No. Response

1 He agree and that is why we have introduced and required all of the mitigation measures on pages II-52-59 of the Draft EIS. We expect mitigation measures to be vigorously enforced and have required monitoring.

2 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (final EIS section I.B).

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

I firmly believe that poisons should not be used for the initiation of the hardwood trees. The poisons get into

Comments on Alternatives:

The water application in country which in turn we drink eventually causing cancer. I don't need that! If you use the manual labor method it would get some water courses off their banks & give them a job so their kids don't have to live on the streets & starve.

Thank you

Wale (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

Name: Wale A. Williams (First, MI, Last (Organization))
Street: DEER AR (City, State, Zip Code)

Tear at perforation

Response to Comments in Letter No. 743

From: Hake A. Williams

Comment No. Response

- 1 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
2 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Tear at perforation

RESPONSE FORM

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- 1 Comments on Scientific Analysis: Well done - represents an unbiased study
- 2 Why? - Alternatives & Study reinforce our strong stand against use of herbicides - we simply do not know enough regarding herbicide use throughout this impact statement. We find enough information to tell us no more herbicides.
Comments on Alternatives: We Favor Alternative D
- 3 Why? Herbicides are not used - Herbicides present such a danger to our water table Wild Life, our entire eco system - We must learn to use our minds & the empirical data we have to date!
Other: The use of manual mechanical methods can provide jobs & a deep appreciation one derives from hands on solutions. Being at one with our environment. Our farm is located in the Ouachitas - we are involved - Our love of Wild Life - The Forest - Our water supply - all are very real!

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Pat Mary Egleson
 Name: First MI Last (Organization)
Pat Mary EG EG
 City State Zip Code
Rayal Ark. 71968
 Tear at perforation
Thank you For This Study - we will keep it & use it For reference material - we deeply appreciate the opportunity to be heard! - God Bless

Response to Comments in Letter No. 744

From: Pat & Mary Egleson

Comment No.

Response

- 1 The Interdisciplinary Team is pleased you feel the EIS is an unbiased study.
- 2 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.
- 3 Your preference for alternative D was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 4 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 5 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Tear at perforation

RESPONSE FORM

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1 Comments Scientific Analysis: I Do Not want The Forest burned.

Why?

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: John Charles Fisher (First, Middle, Last, Organization)
Street: 1620 Church Street
City: Meha Ar. State: Zip Code: 71953

Tear at perforation

Response to Comments in Letter No. 745

From: John Charles Fisher

Response

Comment No.

1 Your opposition to the use of prescribed fire was included in content analysis of all comments received.

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. These two activities account for almost 90 percent of all prescribed fire use in the Ozark/Ouachita national forests.

Please note specific mitigation measures on page II-47-52 of the Draft EIS to protect adverse effects from prescribed fire.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 **Comments on Scientific Analysis:** The use of herbicides is totally irresponsible. Your analysis doesn't supply adequate information on the long term environmental effects of these hazardous chemicals. Why? No mention appears to be made about the disposal of the inevitable remaining "waste". How are the containers to be disposed? How are the tanker trucks to be cleaned, etc.
- 2 **Comments on Alternatives:** Timber harvesting is necessary and desirable but the covered methods are very destructive and needless. Why? Intensive fires, clearcutting and herbicides should be relegated to things of the past. Soil erosion, buffer contamination, wildlife decimation should be more important to other: the Forest Service than the forest epidemics means of clearing the forest. Why? Selective cutting ^{with} no herbicides, is a considerably intensive (also good for the local ecology) method of harvesting the necessary trees. (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Bob L. Brewer D.D.S.
 First Last (Organization)
Ed W. Main St.
 Street
Farmington, AR 72730
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 746

From: Bob L. Brewer

Comment No.	Response
1	None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.
2	Mitigation measures on page II-58 (numbers 27 through 32) of the Draft EIS address some of the points you raise. Generally, these issues are covered in employee training and certification and represent operational instructions far more detailed than we attempted to be in this EIS. In any event, we have strengthened the Final EIS by including discussions of transportation, storage, and disposal.
3	The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest. While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns

1 Comments on Scientific Analysis: The analysis presented here is good, however, I feel that more consideration should be given to endangered & threatened plants and animals. Why? Since the NMDEIS does not make clear what plants and animals are present in the Natural Forest, I think that further research should be conducted to find out which are present and what management techniques used in the comments on Alternatives. Alternative D seems, to me, to be the best method for managing the Natural Forest.

2 Why? I believe D is best because it does not call for the use of herbicides and uses a higher degree of fire management which is beneficial for recycling nutrients. Also, fire is an essential management tool for the RW-wooded area. I am sure that if more were done in the RW-wooded area, it would be possible to do proper forest management. I would possibly allow for the growth of the timbering population. Why? of the endangered species in the Natural Forest.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Street City State Zip Code
Robert H. Doster
3244 N. Gregg St #12
 Fayetteville, AR 72703

Tear at perforation

Response to Comments in Letter No. 747

From: Robert H. Doster

Comment No.

Response

- 1 Appendix D contains a detailed discussion of potential effects on threatened, endangered, proposed, and sensitive species. This appendix also discusses how potential effects may be mitigated, and that inventories may be needed. Mitigation measure number 2 on pages II-39 and II-40 of the Draft EIS also gives specific rules for protecting these species and their habitat.
2 Your preference for alternative D was included in the content analysis of all comments received. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: I BELIEVE THE VMDEIS USES UNJUSTIFIED ASSUMPTIONS ABOUT ACCEPTABLE RISK OF HERBICIDE USE FOR VEGETATION MANAGEMENT.

2 Why? BECAUSE I, FOR ONE, DO NOT ACCEPT THE RISK OF GROUND WATER CONTAMINATION YOUR HERBICIDES USE. ALSO, THERE ARE PERSONS WHO USE THE NATIONAL FORESTS WHO ARE ESPECIALLY SENSITIVE TO CHEMICAL HERBICIDES AND BECOME ILL WHEN THEY GO INTO AN AREA WHERE THERE IS NO Comments on Alternatives: WARNING OF HERBICIDES BEING VICINENT.

3 I FAVOR ALTERNATIVE D FOR A 10-YEAR PLAN,

4 Why? BECAUSE I HAVE OBSERVED ON NATIONAL FOREST LANDS THAT IT IS UNNECESSARY TO KILL OFF NON-COMMERCIAL SPECIES IN ORDER TO PROMOTE MULTIPLE-USE FORESTRY. LIMITED MANUAL, MECHANICAL AND BIOLOGICAL MEANS ADDED TO ALTERNATIVE D CAN EASILY PROVIDE ADEQUATE "KILL!" Other: EVEN THE MOST LIMITED USE OF HERBICIDES UNDER THE BEST CONDITIONS IS UNACCEPTABLE.

5 Why? BECAUSE, EVEN WITH THE BEST, SAFEST PLAN, THE EXECUTION OF IT DEPENDS ON IMPERFECT HUMAN BEINGS TO CARRY IT OUT. I KNOW, FOR EXAMPLE, OF ONE APPLICATION BY SPANISH SPEAKING CONTRACT LABORERS IN THE BUFFALO RANG DISTRICT WHERE THE APPLICATORS EASILY VIOLATED APPLICATION INSTRUCTIONS DUE TO LANGUAGE OF ENGLISH. (Use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
 BARRY R WEAVER
 HCR 31, Box 101

Street City State Zip Code
 TRADER AR 72641

Tear at perforation

Response to Comments in Letter No. 748

From: Barry R. Weaver

Response

Comment No.

1 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking, we identified the lack of data and explained how the Risk Assessment dealt with the gap.

2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

3 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.

4 Your preference for alternative D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

5 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative) and the crew supervisor. Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews. In the Final EIS we have translated the mitigation measures in Spanish to be used in supervision of crews.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? the Alternatives respond to your concerns?

Comments on Scientific Analysis: ALTHOUGH I AM 12 YEARS OLD AND HAVE NOT HAD BULLGGY OR CHEMLTRY YET, I CAN TELL YOU HAVE NOT DONE ENOUGH RESEARCH ON POISONS ON OUR LAND, PEOPLE CANNOT DRINK SOME WATER OR LIVE ON LAND IN MISSOURI BECAUSE WHY? DIOXIN CONTAMINATED THE LAND AND UNDERGROUND SPRINGS. YOU NEED TO WORK MORE ON RESEARCH BECAUSE MY GENERATION WILL HAVE TO LIVE WITH WHAT YOU ARE DOING NOW.

Comments on Alternatives: I AM AGAINST ANY KIND OF POISON. I AM AGAINST BURNING ANYTHING, BECAUSE THE FIRE COULD GET OUT OF CONTROL & BURN DOWN THE WHOLE FOREST. CLIP DOWN TREES VERY CAREFULLY, AND WHY? LEAVE OAK, HICKORY TREES AND OTHER HARDWOODS. DON'T CLIP THEM DOWN SO YOU CAN GROW PINE TREES INSTEAD.

Other: IT IS WRONG TO POISON OR KILL TREES AND ANIMALS SO YOU CAN MAKE MONEY FROM SELLING PINE TREES FOR PAPER PULP.

Why? THIS IS WHERE I LIVE. IT IS MY HOME AND I WANT IT TO STAY HOW IT IS. A LOT OF ANIMALS LIVE IN THE FORESTS. THE FORESTS ARE THEIR HOME TOO.

(use additional sheets as necessary)

To return, this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: BRENT G. LONG
 First MI Last (Organization)
HR 72 Box 92
 Street
JASPER AR. 72641
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 749

From: Brent G. Long

Response

Comment No.

- 1 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 A site-specific burning plan is required for each prescribed fire (Draft EIS pages II-46 and II-47). Each such plan sets constraints on weather and fuel conditions and for resource coordination so that the prescribed fire will be safe and effective (Draft EIS page IV-123) and pose the least possible risk to the environment. Given such planning, and the fact that the preferred alternative does not allow severe, high-intensity prescribed fires (Draft EIS pages II-11 and II-46 to II-51), mortality of wildlife and plant regrowth is minimal (Draft EIS pages IV-38 to IV-40 and IV-75).
- 3 The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The analysis is comprehensive, covers all the facets of the forestry environmental aspects that I am primarily interested in. It is readily understandable but repetitious due to having to approach the problem from many angles. I realize the necessity of that.

This is a major area of concern with all kinds of potential for both good and bad effects. Since these are mostly long term, caution is necessary.

Comments on Alternatives: Plan "D" I believe is most competent for achieving the goals without adding to our other problems.

There are too many unknowns involved in the use of herbicides. The use of Agent ORANGE in Viet Nam with all the misinformation put out about its harmlessness and short term effects by both the government and the chemical companies has created a credibility gap concerning information put out by either of the above agencies.

The people who would perform the application for the wages paid are not likely to be too concerned about the hazards involved and that close supervision would be almost impossible. Other: The injury rate for the manual methods may be higher, but would likely involve only the person himself, not others on a long term. The ones you hire would likely be using the same tools on other jobs, anyway.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Vernon N. Lay Private individual

Name: First MI Last (Organization)

Box 21

Street Vandervoort, Arkansas 71972

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 750

From: Vernon N. Lay

Comment No.

Response

- 1 The Interdisciplinary Team is pleased you find the analysis comprehensive and useful.
- 2 Your preference for alternative D has been included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 3 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: I feel the scientific analysis released was not detailed enough. For example, 100 miles north of the Ozark/Cuachinac mountains, water supplies & property have been condemned due to commercial use of diazin. Not enough research has been considered on the future potential hazards of herbicides especially in the systems, which are complexly interconnected in the region. Also, not enough attention is paid to preserving indigenous

2 Comments on Alternatives: Vegetation, such as hardwoods, Use only light to moderate manual means. Do not use herbicides at all. (Alternative D). Avoid soil erosion, which is often evident here

3 Why? The National Forests were created to preserve & manage the land, not make money for the federal government. I am completely against converting hardwood areas to softwood areas. Hardwoods are other valuable natural economic resource. It is reprehensible to poison trees. Anyone engaged with managing a forest should not view it as an economic commodity, but a beautiful & dignified natural resource. Why? There has no point in the government taking land from the private sector if they are going to mismanage the existing native habitat & convert it to a southern pine plantation.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Gary J. Long, Jr. Last (Organization) HCR 73 MI 6092 State AR Zip Code 72644 City Jasper

Tear at perforation

Response to Comments in Letter No. 751

From: Gary J. Long, Sr.

Response

Comment No.

1 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

2 In this EIS, we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, page II-38-39) recognizes the requirement for managing to maintain biological diversity.

3 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why? I am opposed to both clearcutting and any herbicide use. Scientific analyses currently used still allow unacceptable noise levels. Other means of vegetative control are available.

Comments on Alternatives: The best means of vegetative control is selective cutting. Therefore I propose acceptance of the alternative that uses no herbicides + selective cutting, with no clearcutting.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Beth E. Ardapple Kindberg

Street: Barr Ark Talala

City: State: Zip Code:

Tear at perforation

Response to Comments in Letter No. 752

From: Beth E. Ardapple-Kindberg

Comment No.

Response

1

The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though However you decide to respond, please help us by making specific and meaningful comments. Have we done adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 To put it very simply, we are very much opposed to the use of herbicides in the National Forest.

2 Our land border the National Forest Comments on Alternatives: and we dread to think of having our well polluted with herbicides.

3 Why? We are also opposed to intensive mechanical treatment. It is intrinsic to see the forest service began erasing of the trees and natural environment.

4 Why? There are viable alternatives. Thanks for letting us comment. Lisa & Doug McGrath

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization) SWAIN STAR RT BX 359 Street NAIL AR 72656 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 753 From: Lisa & Doug McGrath

Response

Comment No.

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
3 Intensive mechanical treatments are proposed only in alternative H (see page II-16 of the Draft EIS). Effects from mechanical treatments are described in chapter IV, pages IV-91 through IV-95 for soils, and pages IV-106 through IV-108 for water (Draft EIS). Alternative F (Draft preferred) proposes only low to moderate intensity mechanical treatments.
4 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: ~~It is not clear to us~~ the use of herbicides is not only dangerous to people spraying but also the animals who inhabit the forest. ~~It is not clear to us~~ ~~herbicides can only result further harm to the forest.~~ The continued use of herbicides can only result further harm to the forest.

Comments on Alternatives: Manual labor seems to be the best alternative

Why? Less damaging to the forest, creates jobs in an area that could use them

Other: No other alternatives

Why? All other alternatives are to damaging to the forest

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary). (use additional sheets as necessary)

Name: Billy S. Clayborn, Box 925, Street: Jasper Ar, 73541, City: State: Zip Code

Tear at perforation

Response to Comments in Letter No. 754

From: Billy S. Clayborn

Comment No.

Response

1 Toxic effects on wildlife, as well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: THE ANALYSIS IN MY OPINION IS INCOMPLETE. WHENEVER I READ "ACCEPTABLE RISK" I MYSELF READ IT WORKS ON PAPER BUT "WE DON'T KNOW WHAT IS THE TRUE RISK IN REAL LIFE. WHAT HAPPENS YEARS LATER WHEN THE WATER AND SOIL IS CONTAMINATED, AND CHILDREN ARE TURNING UP WITH ALL KINDS OF HEALTH DISORDERS.
 2 WHY? THE USE OF CHEMICALS IS COMPLETELY AGAINST MY BELIEFS. I REALIZE THE USES IS NOT USING "AGENT ORANGE" BUT THERE WAS A TIME WHEN IT WAS A SAFE PRODUCT. AND NOW LOOK AT OUR VETS. THE FEDERAL GOVERNMENT SAYS IT WASN'T THE CAUSE, BUT WE ARE SORRY. I MOVED HERE FROM THE CITY TO ENJOY NATURE NOT TO FEAR
 3 Comments on Alternatives: MANUAL LABOR, HEAVY EQUIPMENT, CONTROLED BURNING IS A TIME PROVEN METHOD THAT WORKS.

4 WHY? THE ABOVE METHODS I DESCRIBED ELIMINATE THE FEAR I WOULD HAVE OF BEING ASSAULTED. IN RETURN THESE METHODS WOULD GENERATE JOBS AND REVIVE FORTUNE AREA CONCERNED. BUYING YOUR POISONS DOES NOTHING FOR JOBS LOCALLY. IN RETURN THE CHEMICAL COMPANIES THAT MAKE THE HERBICIDES ARE DEFINITELY MAKING MONEY AND TOXIC WASTE BY PRODUCTS FROM YOUR POTENTIALLY SAFE HERBICIDE.
 Other: PLEASE YOU COULD LET NATURE TAKE ITS COURSE, BUT NO BODY PROFITS FROM THAT

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: DAN A BURLINGAME Last (Organization)
 HC.30 / 94E MI
 Sheet HELSOR AR State 72856 Zip Code
 City

Tear at perforation

Response to Comments in Letter No. 755

From: Dan A. Burlingame

Comment No.

Response

- 1 Risk Assessment has been used to project risk to humans and wildlife where available data was missing or unavailable. This is a scientifically acceptable process which conforms to CEQ Regulations, 40 CFR 1502.22. The analysis consistently used conservative assumptions that deliberately overestimated potential adverse effects of herbicides to account for gaps in our data.
- 2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 3 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 4 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: A lot of results are not fully revealed to the public or hidden 'completely' when needed. Tests are done, but who knows what can accumulate in areas over years and how it can affect any living creature? We drink the poisoned water, eat the tainted plants and animals and breathe the fumes that's left over. When poisons are used on the earth,

Comments on Alternatives: the living creatures in it - pay dearly with their lives. Thus, the soil dies, which in turn makes plants eventually die because nothing is breaking the soil down to stay loose and viable for the roots to live which holds water. What finally happens is those plants die and the soil is washed away along with all the poisons - to get into the water and anything that uses it! It's a vicious circle that encompasses the natural process around life itself!! I don't think burning land off is good either because of the smoke and all it carries in it. The only safe method is manual labor or mechanical only when necessary because of unclean exhaust and excessive fuels used. This land is for all to enjoy in our day-to-day living. We can't enjoy it if we worry about all the poisons that we're faced with and the consequences they give (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First SUE N. MI BURLINGAME Last Box 96-E (Organization)
 Street Belser, Ark City 72856 State Ark Zip Code

Tear at perforation

Response to Comments in Letter No. 756

From: Sue N. Burlingame

Comment No.

Response

1 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Each prescribed fire has temporary effects on local and general air quality that can be controlled by smoke management practices as to the timing and nature of each burn (Draft EIS pages II-50 and IV-119 to 122). Prescribed fires on national forests account for less than 2 percent of the total forest fire smoke produced in the Ozark/Ouachita Mountains, so their contributions to regional air pollution and the "greenhouse effect" are negligible (Draft EIS page IV-122).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. These two activities account for almost 90 percent of all prescribed fire use on Ozark/Ouachita national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 Why? When we look around us and see the beauty and bounty of the forests which our forefathers preserved for our use and enjoyment, I feel we have a privilege and obligation to do the same for our posterity.

2 Why? In light of global warming we should not put tons of smoke back into the atmosphere - even from controlled burns. Herbicides which are used in

3 Other: Large quantity rotatory will be ~~not~~ pollutant to the water supply but will kill off all herbaceous plants, both useful and otherwise. We have an obligation to those who come after us to at least leave the forests the way we found them - if not better. (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Kathryn M. Ballard (Organisation) Owner
First Last
Street: Route 1, Box 85
City: Watson, OK 74763
State Zip Code

Tear at perforation

Response to Comments in Letter No. 757

From: Kathryn M. Ballard

Comment No.

Response

1 We agree.

2 Prescribed fire on national forests in each of our 8 alternatives would account for less than 1 percent of the total forest fire smoke produced in the Ozark/Ouachita Mountains (Draft EIS page IV-122). In addition, the greatest single contributor to oxygen depletion and carbon dioxide loading of the atmosphere is tropical slash and burn activity, not combustion in the U. S.; prescribed fire in all the world's temperate forests make a negligible contribution (Draft EIS page IV-122). Prescribed fire on national forests have no significant effect on regional air quality or global climatic change.

3 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

Tear at perforation

RESPONSE FORM

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1
Comments on Scientific Analysis: Comment on Draft Environmental Impact Statement for vegetation management on the Park/Coachita Forests. R15D a Southern Region. The Analysis seems very good. A very thorough analysis, indeed Why?

2
Comments on Alternatives: you have apparently devoted much time and study to the various Alternatives and your analysis is very good, but I cannot understand just why it is so important to control all plant life on the Environment. Why not permit some of the hardwoods to grow among the pines? Why? and the 71 were tolerated natural habitat. The more natural the forest the the more appeal it has for viewing

3
Other: I prefer Alternatives D. It prohibits the use of herbicides altogether. It is common knowledge that all the harmful herbicides do to the environment where ever used. Once it is used it cannot be undone. Why? Why could not all segments of our forest be Made Natural?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Rt. 6 - Box 3058
Street
City State Zip Code
Mona, Ar. 71953

Tear at perforation

Response to Comments in Letter No. 758

From: Uva Walker Brawley

Comment No.

Response

- 1 The Interdisciplinary Team appreciates that you feel a thorough analysis has been done.
- 2 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.
- 3 Your preference for alternative D was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

To John E. Alcock
Regional Forester - WFS
Southern Region

Jasper, Arkansas
November 6, 1989

- Mr. Alcock: The following comments are on your D.E.I.S. for Vegetation Management in the Ozark-Quachita Mountains. I am a former naturalist with Missouri and Arkansas State Parks and have lived in northwest Arkansas since '72, & personally view our natural biota as God's creation and as such due at least respect if not awe. Your preferred alternative escalates or repeats past & current practices which seem to indicate a subconscious was on God by attacking His creation, and reducing a forest to brush.
- 1 I instead prefer a modification of alternative D with no herbicides, reduced burns (low intensity - Pine only), reduced mechanical (especially eliminating scarifying tools or others which expose soil) and expanded manual and biological methods. Why prefer traps and data gaps and unknown potential long-range problems to the certainty that local jobs could be created to accomplish the same thing without poison? I would further recommend that the herbicide ban be extended to include other poisons (insecticides, fungicides, rodenticides) under the term bio-icides.
 - 2 The proportional consideration given in the D.E.I.S. to the various methods indicates a definite bias to justify herbicides and fire. Exhaustive data (most of which is provided or funded by the industry) is presented to present a harmless or confusing image of the herbicide. Fire is also given extensive discussion, but biological is ignored and manual is biased against by the site factor being overplayed (worker).
 - 3 Utilizing light-oil-way which can't be moved should be treated as timber food plots and planted with money not spent on herbicides. The best way to control unwanted vegetation is to replace it with a sustainable alternative instead of trying to create voids.

Response to Comments In Letter No. 752

From: Kent Bonar

Comment No.

Response

- 1 Your preference for alternative modified D was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.
Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 3 Discussions of insecticides, fungicides, and rodenticides are beyond the scope of this EIS.
- 4 The length and breadth of discussions in the EIS is partly based on the Council on Environmental Quality Regulations, 40 CFR 1502.2(b), which require that "Impacts shall be discussed in proportion to their significance." 40 CFR 1508.27 discusses "significance."

- 6 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- 7 Our approach was to use all existing health and safety data together with our Risk Assessment models to do as detailed an analysis of comprehensive health and safety effects as possible. The analyses were subjected to rigorous scientific review (EIS chapter V) and have broad support for their thoroughness and conservative overestimates of potential risk.
- The risk-of-accident statistics presented in the Draft EIS are based on our current program which includes extensive safety training. Because of the hazards and exposure of vegetation management work, which has been following rigid safety standards for many years, we foresee no significant improvement in these statistics despite continued safety training.
- 8 Please see mitigation measures 20, 21, 22, and 23 on page II-45 of the Draft EIS. We are ensuring that managers consider multiple uses in these areas, and we are encouraging low-maintenance ground covers.

2

Repeated reference is made to reducing understory. In fact, understory trees do more good by encouraging canopy trees to grow taller and straight than thin through competing.

The concept of light tolerance is a basic one to outdoor forestry. Despite many inconsistent mentions mentioned in my response to the last Quabbin plan. A curious bias tends to classify the most valuable species as intolerant, when observation indicates otherwise. Both walnut and cherry are components of old growth, and can be found regenerating in it. Valuable tolerants such as hickory and coffee are mentioned, but among the tolerants listed is "birch." Our only birch is river birch (a pioneer hybrid), so the reference is Appalachian; as are those to yellow poplar.

A basic flaw in current harvest systems is in their inappropriate application. Single-tree selection is the best method for hardwoods, but is instead being used on pines. Group selection is more appropriate for pines but is applied instead as mini-clearcuts on hardwood.

This backwoods approach seems designed to fail in both. Selection should be applied on hardwood and mixed sites to maintain initial percentages of stand composition and to encourage stability. The reference on page 1-7 to pioneer species is inaccurate and misleading. Dogwood is a residual understory which persists from old growth. It is quickly overtopped by canopy species and helps their growth by fixing calcium in soil and encouraging vertical growth. Black locust fixes nitrogen, produces posts and fuel and is an excellent bee tree. Its canopy is open enough to encourage growth from below and it persists into late successional stages. Red Maple and Blackgum are components of all successional stages.

9 Please see our discussions on pages III-3 through III-11. We recognize several factors (not just light tolerance) affecting vegetation composition on any site. Additionally, we recognize many classification schemes but indicate our use of Braun's (1950) description of forest regions as a basis for our classifications.

10 Discussions of harvest systems are not within the scope of this EIS. They are considered in Forest Plans.

11 Comment noted.

B

True pioneer species such as shortleaf pine, red cedar, sumac, persimmon, sassafras, and winged elm are usually short-lived and have high mortality rates. They don't compete well with more stable species and represent a disclimax which can be maintained only by repeated disturbance. A single release by any method will provide only temporary help and merely slows down their replacement by more stable species.

Fire should be used only on pine sites or to maintain prairie remnants; on level or gentle slopes only, and only in low intensity burns with flame lengths of three foot or less. Pine itself, not rapidly upon contact with soil and so fuel buildup from pine alone are to some extent self-regulating.

To control intensity of burn, the area should be first pipped clean of high intensity fuels such as locust, hickory, persimmon, dogwood and ironwood over 6" in diameter. On a true pine site this should be prohibitive, but high concentrations of them on a mixed site might prevent a controllable burn.

Hardwood species which respond best to fire (such as blackjick oak, black oak, post oak, black hickory, locust, and persimmon) generally produce poor quality timber which is itself best suited for use as firewood, and are best supplied by cutting for fuel.

It should be pointed out that any method which leaves standing dead trees will create uncontrolled damage to favored trees or regeneration as they fall. Removal of cull trees (or at least controlled felling) should significantly improve the quality of the preferred trees by minimizing damage. Logs with leans predicting eventual direction of fall could be left for wildlife as opposed to less predictable straight ones, which felling can place to advantage.

12

See mitigation measures 1, 2, 3, and 4 on pages II-46 and II-47 of the Draft EIS. Use of fire on hardwood sites is extremely limited.

13

A major reason that large wildfires occur is large fuel accumulations. In the Southern Region, we treat these accumulations by using prescribed fire every 4-6 years which reduces the risk of large conflagrations.

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. These two activities account for almost 90 percent of all prescribed fire use on Ozark/Ouachita national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species.

Picking 59,000 acres clean annually is not feasible.

14

As you recognize, standing dead trees provide benefits to wildlife. In fact, mitigation measure number 19 on page II-45 of the Draft EIS encourages leaving or even creating these dead trees. Where these trees fall in most cases causes only incidental effects, and we do not believe these effects need be analyzed.

Mechanical methods are much less effective in mountains. They wear out faster and require more repair and parts than in flatlands. They also cause more problems of erosion -- both in surface movement and in groundwater leaching into sandstone fracture or limestone sinkholes and caves. Mechanized methods should be on the level of local farm machinery (skid by tractor-mower, bush-hog, rake, disk, pit-hole digger, etc.) considering the size and dispersion of acreage.

Manual methods could be extended to the level of the CCC again; providing on-the-job training to lead to careers at the local level. This should be explored as another alternative.

The speculation was passed on that unsuccessful regeneration of oak is due to the lack of fire. The most fire-resistant oak is blackjack, but the reference is to north slopes and red oaks. An equally valid speculation might be that God is practicing natural crop rotation and a worn-out red oak stand might do better as a hickory grove for awhile. Further explanation of this is given by Henry David Thoreau in his paper in the 1850's. On the Succession of Forest Trees. Basically oak, hickory, walnut and beech; as well as fruit trees such as cherry, plum, persimmon and pawpaw, are planted by wildlife. Oaks are not naturally even-age so dominance comes through gradual gain. A stable habitat favors red oak eventually but not immediately. White oak acorns are much sweeter and so get with planted early by a large wildlife population. So red oak is late -- winter emergency food for the survivors and thus begins in smaller numbers in the best late winter habitats. But red oak acorns mature in two years so when white oak acorn crops fail, red oak acorns are used much more, and earlier by wildlife. Instability such as fire or herbicide application displaces resident wildlife.

15 The effects from mechanical treatments are thoroughly discussed in chapter IV.

16 Reestablishing the CCC or a similar employment training program is beyond the scope of this EIS.

Windfall soft mast crops may encourage encroachment on resident wildlife temporarily but lots of critical late winter habitat works against setback.

What I'm referring to here is a problem of wildlife management directly impacting regeneration as a biological control. A wildlife problem (crows/birds) can be solved by grazing (as a bait to control). Rabbits, quail, squirrels and birds planting, beaks racking behavior and beavers building are not even mentioned under biological controls; but all have direct impact. Forest as a biological tool was summarily dismissed at the scoping session, but I still maintain that their effect on vegetation is critical to those plants they directly pollinate and important to the rest.

An obvious example is that a bear-proof beehive could greatly improve production of nearby food plots or propagate baywood.

Other plants can be used as a control. Walnut doesn't bother most native plants but is toxic to introductions. Bobcats hoibe apples repel moat insects but squirrels and birds eat them.

Incidental inaccuracies in biological data are scattered but recurring. The representative species list include Yellow Pines, Yellow Septentrional, as well as many found in one but not the other, barely found in either or otherwise misleading. (I will send a more complete discussion) Combining both forests describes neither.

An endangered species not mentioned is the golden eagle. Nesting was recorded as late as the 1940s in the Ozark National Forest and Newton county, G & F commission have recovered shot golden eagles within the last ten years. I've sighted several (I was an ornithology field and lab instructor at the University of Missouri in 70-71 and 71-72) but will state that without qualified collaboration I haven't reported such and don't intend to. Pit Ueyie here.

17 We stated in the EIS that the only biologic control evaluated is grazing of cattle or goats. Our logic for this limited review of biologic control was that in our literature search we could not find other widely available implementable and practical biologic methods. If you are suggesting that wildlife are intricately tied to regeneration, we fully agree. Further evidence of this phenomenon is regeneration of cedar along fence rows. However, to suggest that we somehow manage wildlife to achieve regeneration is not practical.

18 See our response to number 9 above.

19 Mitigation number 2 on pages II-39 and II-40 of the Draft EIS provides special protection for threatened, endangered, proposed, and sensitive species and their habitat. If the golden eagle is listed, it is protected.

18

Table III-1

19

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more on this subject as I research it.

Potential effects on endangered, threatened proposed or sensitive - appendix D - makes a bad generalization that in most cases fire is beneficial to listed species. Effects from smoke inhalation on foraging bats, the example cited would be predictably adverse.

Manual treatments do represent a disturbance threat (as do the others) to sensitive species such as birds of prey or owls. Impacts of management due to hunting, fishing and other such practices will impact listed species.

Ozark chinkapin is relatively resistant to fire but doesn't appear to be helped by it despite Table D5. Any benefit of fire to red-shouled hawk could be questioned as well - human disturbances of various kinds adversely impact (Bent) Benefits for Drabs are highly suspect. A question also its benefits to Florida and suspect data gaps on other benefits.

One key to managing endangered species is accurate location data from thorough inventory work. Such work is just beginning and there is a serious lag behind ongoing management. Basic field work is needed and it will take more than sporadic efforts to cover the area. Volunteer projects are insufficient and even these have been cut.

Rubber-stamping no significant impact on the basis of environmental data gaps may ease some guilty consciences but won't serve to protect these plants and animals, or bring them back once pushed over the edge. I would urge more caution in determining the need for much of this, and feel that much of what is proposed in the DEIS is poorly reasoned and counterproductive. I hope that the Final plan will be modified to correct these. I will give you considerable credit for doing a difficult job and hope we can all live with the results.

Sincerely
Kent Bond

20 We found no data in the literature to verify your assertion that smoke inhalation by wildlife causes significant adverse effects (see page IV-75 of the Draft EIS).

21 Disturbance effects are recognized on page IV-81 of the Draft EIS. However, hunting and fishing are not within the scope of this EIS.

22 Classifications in table D-5 are based on our field experience. Your disagreement has been noted. Please consider that if we suggest that beneficial effects occur, we are not suggesting that other effects are automatically excluded. Pages D-8 through D-12 discuss possible adverse effects. We also recognize that treatments must be properly applied.

23 Appendix D and mitigation number 2 on pages II-39 and II-40 recognize the need for inventory data.

24 Preparation of this EIS has been a long and carefully constructed process. We are unaware of any "rubber stamping" and have not suggested "no significant impact." Significance of impacts is one consideration made when determining whether or not to prepare an environmental impact statement (40 CFR 1508.13 and 1501.4). In this case, we have chosen to prepare an environmental impact statement. Having made that choice, we have rigorously followed 40 CFR 1502. We believe that the result of this process is that sufficient environmental information is available to the decision maker for a reasoned choice among alternatives.

25 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *Too weak on biological control
Overkill on herbicides & Fire Inefficient on Fire, endangered Timstand
Sensitive etc.*

Why?

Comments on Alternatives: *Prefer Modified D*

Why?

Other: *Comments attached*

Why?

(use additional sheets as necessary)
To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Hert W Bonar

Name: First *HCP* * Last *Box 24* (Organization)
Street *Jasper, Arkansas 72641*
City State Zip Code

← Tear at perforation

November 6, 1989

John E. Alcock, Regional Forester
USDA Forest Service
Draft O/D Attn: Rm. 3625
1720 Peachtree Rd. N.W.
Atlanta, GA. 30367

Dear Mr. Alcock:

I am a resident of Newton County, Arkansas and a National Forest user. I would like to make the following comments to the Draft Environmental Impact Statement for Vegetation Management for the Ozark/Quachita Mountains (VMDEIS).

This document is quite confusing to me and to most of the people I have discussed it with. I know of no one outside of Forest Service personnel who can grasp just how it relates to either of the Land Management Plans (LMPs). I do realize that an environmental impact statement needs to be technical, and therefore not easily understood by the uninitiated; but to further compound the problem USFS has chosen to combine the information from two (2) radically different mountain regions into a single document.

This is just one of the ways in which USFS is fragmenting the Ozark, N.F. LMP, fragmenting the issues concerning forest management for both Arkansas national forests, and by so doing have dissipated much of the interested public's remaining energy available for addressing those issues. The question of intentional fragmentation of the entire process is, to me, the single biggest mistake this document makes, although many glaring faults fill its pages. The document's more-than-occasional lack of clarity, its obvious lack of regard for certain National Forest users belonging to minority groups (such as chemically sensitive people) as well as the fact that it was based upon suspicious, fictitious or even non-existent data which is supplied by either the E.P.A., an agency the public has found to be generally untrustworthy, or the manufacturer of the chemical (who should probably never be trusted).

Getting back to the issue of fragmentation, I strongly feel that the two documents (FEIS for the Ozark National Forest and VMDEIS) should have been written as a single EIS to allow a more relevant review of total forest management activities. The path which USFS has chosen in this matter smacks of intentional deception when one reads from the Revised LMP for the Quachita N.F. that the use of herbicides is an issue of vegetation management and won't be covered in the LMP, and then reads from the VMDEIS that herbicides used in connection with timber harvesting have nothing to do with vegetation management.

It also strikes me as very devious behavior to implement the VMDEIS through **APPENDIX TO THE FLMP** (which, of course had its own EIS) especially when the this tactic is withheld from general public knowledge.

My question is, "Why, in the first place, do we have to deal with not one, but two documents?" Especially two seemingly contradictory ones.

VMDEIS also fails to adequately address the "need for action" as required by NEPA regulations. The only "need for action" is stated very briefly in one paragraph near the bottom of page I-2, Vol. I. I feel the true "need" is really the prevention of this so-called "necessity" in the management of our forests. The problem occurs because the timber harvest methods and silvicultural systems addressed in the Ozark National Forest's FLMP rely upon these activities.

Response to Comments in Letter No. 760

From: Joe Henry Morin

Comment No. Response

- 1 Some people did complain about complexity of this EIS; however, the majority of those who commented on readability thought it was well done. Our staff is available to clarify any troublesome points.
- 2 We combined the Ouachita, Ozark, and St. Francis National Forests for a number of reasons including the fact that we are dealing with a single topic, vegetation management. The Council on Environmental Quality Regulations, 40 CFR 1502.4(c), encourage Federal agencies to do so.
- 3 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

This EIS is used to make decisions on how the vegetation management program on Ozark/Quachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS and have not included several issues which were discussed in Forest Land and Resource Management Plans. We are uncertain why you believe repeating those issues and associated analyses here, when they are already available in another document, would aid the decisionmaker in making a reasoned choice among alternatives. What surely would have been achieved is unnecessary complexity.

4

We have attempted in numerous ways to ensure that the public has been well informed about how the EIS would be implemented. On page 1v of the Summary, we mention that Plans might change. On page I-8 where we discuss implementing the decision, we clearly explain the process. Also on page IV-150, we state in the third paragraph that changes to Plans may occur.

In November 1988, we mailed a newspaper-tablet to everyone on our mailing list. It included an article on page 3 which discussed relationships between the vegetation management EIS, Plans, and the Regional Guide. Additionally, in our public participation activities we held a number of informal public meetings and this relationship was discussed very openly at nearly every meeting.

Finally, the Ozark/Ouachita Mountains EIS is the last of three EIS's prepared by this interdisciplinary team. Records of decision on the earlier two were released on 2/27/89 and 7/27/89. Those documents serve as examples of the process, and were distributed to over 3,000 people and organizations. We find, after a very quick review, that several people and organizations who received those documents are also participating in the Ozark/Ouachita Mountains EIS process.

5

Our statement on page I-2 of the Draft EIS is consistent with the Council on Environmental Quality Regulations, 40 CFR 1502.13, requirements. Commenters may disagree (prefer no action) but that does not imply that we have violated the regulations.

The document is also unclear as to the specific acres to be treated, by each method under each alternative in the individual forests. It should have also included the methods and specific acres to be treated for reasons other than timber management such as rights of way and road or trail corridors. In light of the fact that both LMFs are either under revisions or appeal to reduce the total acres of management the numbers stated in the VMEIS are high and therefore meaningless. This lack of specifics is a serious oversight and may violate NEPA regulations as to adequately informing the public on proposed actions. Therefore I request that these specifics be included in the final EIS.

--**--

I would like to make the following additional substantive comments concerning herbicides. I am opposed to the to future continued use of herbicides on all National Forest lands because:
A) of extensive data gaps in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, Vol. 1;
B) of considerably significant needs for further research to fill these data gaps as stated on pages IV-147, Vol. 1;
C) as stated on page IV-10, Vol. 1: "Studies on animals are needed to approximate human health effects, but, especially for chronic effects, the relevance of 2 to 4 year studies on animals when compared with a 60 or more year life span for a human has been seriously questioned."

D) VMEIS makes arbitrary use of quantitative risk assessment without an adequate data base (which is lacking for the "acute" herbicides proposed) while no qualitative assessment was performed to determine the accuracy and scientific verifiability of data used to fill these large data gaps. Many times no risk was assumed because no studies had been done to determine all possible effects.
E) the "no observed effects levels" (NOEL) for humans may be too high, since they are only the predictions from scientific modeling and not actual studies, therefore herbicide use on our public lands involuntarily exposes those extremely sensitive people who exhibit a range of reactions from lower than normal NOEL's to possible toxicological, immunological and neurological reactions thus greatly endangering their lives and preventing them from fully enjoying their national forests.

VMEIS notes this on page IV-8, Vol. 1, where it states in regard to Margins of Safety (MOS), "If the NOEL divided by the dose results in a number greater than 100, a chemical is considered to pose an acceptable risk for the general population (excluding sensitive individuals)."
Add the young, whose metabolisms are much higher and whose bodies are still developing rapidly, and the older members of our society, who are already carrying a lifetime burden of pollutants (and with weaker immune systems) and the question arises, "Is this risk acceptable when I know the young and the old will be the ones taking the majority of this risk?"
This previous statement (concerning the NOEL) on page IV-8, contradicts an earlier statement on page IV-7, Vol. 1, "This EIS makes no value judgments (acceptable/unacceptable, safe/unsafe). It compares predicted risk with published standards to see if the herbicide or additive is more risky or less risky than the standard."

F) quantitative risk analysis is a relatively new tool and does not have a history for accurately predicting results. Such risk analysis was used in California and Oregon but failed to predict toxic reactions resulting from eating watermelons sprayed with a pesticide at 1/5 the NOEL just a few years ago.

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Mitigation measure number 1 on pages II-39 and II-40 of the Draft EIS requires a site-specific analysis which will clearly identify acres to be treated and also requires evaluation of several possible methods of treatment of each site.

Acres breakdown by program area, by method of treatment is shown for every alternative evaluated. The preferred alternative data is on page II-12 of the Draft EIS.

Acres projections in this EIS are based on up-to-date projections from Forest Plans. For example, alternative C reflects current data from the Ouachita National Forest's Supplemental Analysis. The NEPA process and resulting environmental documents are flexible. If further changes occur in Forest Plans, this EIS can readily adjust to accommodate them. Mitigation measures 26 and 27 on page II-46 of the Draft EIS are part of this flexible process.

Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.

We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.

We go on to say that this question is minimized when discussing non-persistent herbicides. Analogy is a standard scientific method used to predict effects where there are incomplete or unavailable data. Modeling of effects from known information was done in all cases where scientific data were unavailable. Risks identified in this process are disclosed and considered in our analysis.

We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking, we identified the lack of data and explained how the Risk Assessment dealt with the gap.

We are unclear as to the purpose or meaning of a "...qualitative risk assessment..." 40 CFR 1502.22 requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on quality and relevance to the process.

The criterion proposed "...to determine all possible effects..." is at variance with 40 CFR 1502.2(b) which states: "Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues..." and also is inconsistent with 40 CFR 1502.22 which deals only with "...reasonably foreseeable significant adverse effects on the human environment..."

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NOEL's are evaluation of the highest dose of a chemical administered on a subchronic or chronic basis which causes no observable effect in test animals. It is scientific data and not a prediction. Thus, it is neither "...too high..." nor is it too low. The lowest NOEL among all tested species is taken to be an approximation of the human NOEL, and then a safety factor of 10 is used to make a more conservative (risk reducing) estimate. For further information see the discussion of Margin of Safety on pages 5-1 through 5-3 of the risk assessment (appendix A) and the discussion beginning with "Hazard Identification" on page IV-4 and ending with the discussion of "cancer potency" on page IV-8 of the Draft EIS.

Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

14

Text on page IV-7 states "This EIS makes no value judgments (acceptable/unacceptable, safe/unsafe). It compares predicted risk with published standards..." The NOEL statement on the next page is one of those published standards. This is done so ■■ to comply with 40 CFR 1502.24.

For your reference to typical public scenario information found on page IV-14, it is not reasonable to expect us to discuss maximum scenario findings under the subheading typical public scenario. This information is in the next subheading, "maximum public scenario."

15

Quantitative risk assessment has been in general use since the late 1970's. While not perfect, it has an excellent track record. The case referred to was one of an unpredicted synergism which was overlooked in the analysis. Reasonably foreseeable synergisms with potential to cause significant effects have been considered in this EIS (40 CFR 1502).

- 16 G) VMD/EIS does not fully analyze all potential impacts and risks to water quality in geological regions containing a fragmented substructure, especially where lime sinks have created areas of rapid internal drainage during heavy runoff. There are no water quality standards for most proposed herbicides since the Environmental Protection Agency (EPA) and the individual States concerned have failed to set any standards for them. USFS claims to meet the strictest drinking water standards set by the EPA of .100 ppm for 2,4-D, the only one for which they have information. It is assumed the rest are safe if they do not exceed those amounts for 2,4-D.
- 17 H) Worst case scenarios are over-conservative in the estimates for extreme spills. What if a helicopter crashed into a refill tanker on landing and exploded into flames? Is this too bizarre to happen? Can actual incidents in the field surpass the imaginary "worst case scenarios" Spills onto workers this last April on the Buffalo District of the Ozark National Forest did exceed those predicted (and by two-fold) thus proving that even the finest mitigation measures are only effective if they are properly implemented. In District Judge Robert Belloni's opinion in S.D.S. vs Block, he states the general process of a pesticide worst case analysis. "Plainly the worst result that can occur as a result of proceeding in the face of uncertainty as to whether a herbicide causes cancer is that it does cause cancer."
- 18 I) LC50 and LD50 are inadequate alone to determine risk to humans and wildlife since they only take into account acute toxicity. Long-term, low level toxicity studies have not been done to determine the cumulative, synergistic long term effects when using full formulations of herbicides with their secret inert ingredients (or unknown contaminants) nor their breakdown byproducts and metabolites. This is a serious oversight of the EPA information which USFS depends on for justification for herbicide use.
- 19 J) Neurological and immunological data is unavailable for all proposed herbicides listed since EPA does not require these for registration currently. Hexachloro applications have frequently complained of headaches from breathing of vapors all day long. This indicates the need for further studies in this area.
- 20 K) Of unmentioned possible adverse effects upon biodiversity and threatened, endangered, or sensitive species on National Forest land since herbicides disrupt the natural ecological processes through reduction in biomass and composition.
- 21 L) Herbicide use does not contribute as positively to local economies as do manual or mechanical methods of vegetation management. As stated on page IV-129, Vol. I, average cost per acre not including utility ROW for herbicides is \$61.73. More than 40% of this goes to out-of-region chemical manufacturers while manual methods run \$55.03, all of which could stay in the area.
- 22 M) Of possible toxic residues or metabolite contamination in wild foods collected or in game taken from the forest. Bioaccumulation of herbicides is insufficiently assessed since studies used to predict the long-term bioaccumulation were only four day elimination rate studies with rats and dogs and do not consider bioaccumulation in humans using these food sources.
- 23 N) VMD/EIS does conclude there is some risk involved with herbicide use and the mitigation measures to lessen the risk. No one wishes to accept final responsibility for herbicide use. Chemical manufacturers all include the warning "Use at your own risk" on their herbicides. USFS does conclude that the risk is minimum, making them immune from civil suit should I find 10, 20, or possibly 30 years from now that our ground water has been contaminated by herbicides or that I am suffering from unforeseen health effects associated with their use. USFS is asking me to accept these risks.
- 24
- 25
- 26

16

The worst case situation evaluated -- percolation/leaching through an Astatula sand -- is a significantly worse case than that presented by fractured sedimentary rock overlain by a layer of soil containing organic matter. Karst areas are protected from application of herbicide by mitigations presented in chapter II section #.2.c of both the Draft and Final EIS.

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

17

Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances -- states the following:

(H) Toxic Substances -- Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergism with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.

18

The Council on Environmental Quality Regulations, 40 CFR 1502.22 require that "reasonably foreseeable" significant adverse impacts be evaluated in order to make a reasoned choice among alternatives, management requirements, and mitigation measures in part E of chapter II constrain the magnitude of reasonably foreseeable accidents (see especially number 22 on page II-58 of the Draft EIS). We used water-based accident scenarios rather than terrestrial because the potential for significant environmental harm is higher. The terrestrial accidents you suggest are possible, but pose less environmental threat than the accidents we evaluated.

19

Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.

- 20 LD₅₀ and LC₅₀ are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.
- Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.
- 21 The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.
- 22 The areas of neurotoxicity and immunotoxicity are data gaps of concern to us. However, protocols for developing and evaluating data in these areas are as yet unavailable. There is no common ground on which scientists can base conclusions. We are unaware of scientific evidence documenting problems in either areas resulting from proper application of the products approved for use in this EIS.
- 23 See our response to comments in Letter No. 42, Comment No. 2.
- 24 See our response to comments in Letter No. 23, Comment No. 2 regarding employment. We did not disclose any data which would support increased returns of \$40 per acre for manual treatments. In fact, the limited data we supplied on pages IV-127 through IV-130 of the Draft EIS suggest a figure much lower than \$40. Additionally, if effectiveness of treatment is considered the comparison between manual and herbicide treatments becomes even closer. There is also the chance that labor may be provided by a contractor outside the community or even the State. Measuring the direct input to local economies is much more difficult than supposed in your comment. This effect is one which was determined to be outside the scope of this EIS.
- 25 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
- 26 We agree. Though we are unsure about anything we have included in our analysis which prejudices any civil suits.

27 Therefore I must find the risks unacceptable for all herbicide use in vegetation management when viable alternatives exist and further recommend that our public lands not be managed with their use.

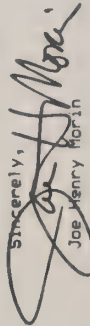
28 I endorse the NCAWA recommendation for a modified Alternative I including a long-term study to eliminate the need for vegetation management through more ecologically sound timber practices, such as NCAWA's Flexible Forestry along with integrated pest management practices emphasizing prevention, allowing natural processes to work, employing least invasive and least toxic methods, and follow-up monitoring and evaluation to fill in data gaps. I support the NCAWA response to VM/EIS and, without exception, the following modifications needed to make Alternative D a viable alternative:

- A) Reduced management to 75,000 total acres per year in light of possible revisions and amendments to current LRMPs.
- B) Use of only low intensity prescribed burns (flame length/height 3' or less) and only upon increases which have not had herbicides applied in the last 10 years.
- C) No firewood permits for any herbicide treated wood.
- D) No intervention in habitats which might support any threatened, endangered, or sensitive species until long-term studies indicate impacts are appropriate to that habitat. If left alone, these areas will have a more stable habitat with fewer human disturbances and more natural disturbances taking over to which they are already adapted.
- E) Emphasizing manual methods of treatment with some low intensity mechanical treatments using only tractor drawn farm equipment which would expose no more than 8% of soil on the site.
- F) Maintenance of mixed forest condition with a mix of species in various sizes and numbers as existed on each stand prior to manipulation which is considered in conjunction with harvest methods.
- G) Increased use of uneven aged timber management such as group and individual tree selection to regenerate white or red oaks and hickory which should greatly reduce the need for any further vegetation management.
- H) Use of biological treatments which do not include domestic animals.

29 Implementation of all vegetation management activities should be vigorously monitored to insure compliance with final EIS. The majority of current health and safety problems are violations of current standards and guidelines. (see attached affidavit concerning spills onto worker of herbicides on Buffalo District of Ozark/St. Francis this last April by Bernice McCabe)

- J) No use of prescribed burns on mixed and hardwood stands.
- K) ROW's managed as linear wildlife plots and planted with low growing grasses and browse.

Thank you for the opportunity to comment upon this document.

Sincerely,

Joe Henry Horin

cc:

- Dale Bumpers, U.S. Senator
- David Pryor, U.S. Senator
- John Paul Hammerschmidt, U.S. Representative
- Bill Clinton, Governor
- Lynn Neff, Supervisor, Ozark/St. Francis N.F.

27 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

28 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

29 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

30 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk. See also response to comment number 4 in Letter No. 254.

In spite of the lack of scientific evidence that unacceptable effects occur, the Final EIS will include a provision that injected stems will not be sold for firewood.

31

Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

32

Monitoring is required by the Vegetation Management EIS, its accompanying Record of Decision, and by Forest Plans.

33

Your comment letter was received in our office without attachments.

34

See mitigation measures 20, 21, 22, and 23 on page II-45 of the Draft EIS.

November 6, 1989

John E. Alcock, Regional Forester
USDA Forest Service
Draft D/O Attn: Rm. 3625
1720 Peachtree Rd., N.W.
Atlanta, GA. 30367

Dear Mr. Alcock

I am a resident of Newton County, Arkansas and a National Forest user. I would like to make the following comments to the Draft Environmental Impact Statement for Vegetation Management for the Ozark/Ouachita Mountains (VMDEIS).

VMDEIS is an inconsistent document which tries to tackle a very complex subject. Its cause is not supported by the way in which it fragments the issues and casts doubt upon FLMPs which are still subject either to revision or amendment. Because it is virtually impossible for me to tell, from reading VMDEIS, just what is going to be done on which forest, and since the two forests differ so greatly in topography, geology and local communities of plants and animals, I can only conclude that USFS intended to fragment the issues and documents, in order to confuse and overload those public who wished to be involved in the process.

VMDEIS fails to meet NEPA Regulation 1502.8 due to conflicting statements it contains and the lack of clarity regarding specifics. Examples of lack of clarity are: statements on page IV-7, Vol 1, "This EIS makes no value judgments (acceptable/unacceptable, safe/unsafe)," and then on the next page states, "If NOEL divided by the dose results in a number greater than 100, a chemical is considered to pose an acceptable risk for the general population (excluding sensitive individuals)." Or page IV-14, Vol 1, typical public scenario, "indicates that no member of the public, including sensitive individuals, should be affected by herbicides or additives proposed for use in Region 8." but is unclear whether these sensitivities were included under maximum public scenario?

Herbicides should not be used on public land until proven safe. The record shows that data regarding the safety of long-term exposure and other crucial factors to be scant or non-existent for these chemicals. I have knowledge of, and have witnessed, the misuse of herbicides in and on national forest lands. I have witnessed the effects of off-site migration and am therefore concerned that the herbicides can and will find their way into the ground water.

Erosion causes stream sedimentation which can carry some herbicides way off-site causing damage to fish and to the birds and animals which feed upon them. Invasion of the food chain is inevitable.

VMDEIS also makes arbitrary use of quantitative risk assessment without an adequate data base, which is lacking for the majority of herbicides proposed for use; while no qualitative assessment was performed to determine the accuracy and scientific verifiability of data used to fill these large data gaps. Many times no risk was assumed because no studies had been done to determine all possible effects.

Response to Comments in Letter No. 761

From: Cecille H. Morin

Comment No.

Response

1 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-18 describe all the alternatives considered. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS to exclude several issues which were discussed in Forest Land and Resource Management Plans. We are uncertain why you believe repeating those issues and associated analyses here, when they are already available in another document, would aid the decisionmaker in making a reasoned choice among alternatives.

2 Text on page IV-7 states "This EIS makes no value judgments (acceptable/unacceptable, safe/unsafe). It compares predicted risk with published standards..." The NOEL statement on the next page is one of those published standards. This is done so as to comply with 40 CFR 1502.24.

Typical public scenario information is found on page IV-14. The information discussing the maximum application rate is found under the next subheading, "maximum public scenario" and in table IV-2.

- 3 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.
- 4 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.
- 5 Existing roads are the main water quality problem in most Ozark/Ouachita Mountain watersheds. This fact is supported by the cumulative effects analysis for sediment (table IV-17, Draft EIS page IV-114). The EIS covers management of roadside vegetation on cut and fill slopes, but not of road surfaces or drainage features. Given these constraints on what the EIS can address, we believe our mitigation measures provide as much stream protection as is practicable. Measure number 22 (Draft EIS page II-45) requires permanent vegetation on all surfaces of intermittent service roads when they are closed and on cut and fill slopes of all roads. Measure number 8 (Draft EIS page II-52) requires a filter strip along all perennial and intermittent streams. Measure number 25 (Draft EIS page II-57) ensures that only manual tools and mowing, which expose virtually no soil, may be used within 30 horizontal feet of perennial and intermittent streams. No soil-disturbing tools are allowed to manage vegetation along roads or trails or in utility rights-of-way in any alternative (Draft EIS pages II-2 to II-17), so mention of sediment-reducing mitigation measures is not needed for them.
- Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 6 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking, we identified the lack of data and explained how the Risk Assessment dealt with the gap.
- We are unclear as to the purpose or meaning of a "...qualitative risk assessment..." 40 CFR 1502.22 requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on quality and relevance to the process.
- The criterion proposed "...to determine all possible effects..." is at variance with 40 CFR 1502.2(b) which states: "Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues..." and also is inconsistent with 40 CFR 1502.22 which deals only with "...reasonably foreseeable significant adverse effects on the human environment..."

John E. Alcock, Regional Forester, Southern Region, Nov 6, 1992 - page 2

Quantitative risk analysis is a relatively new tool and does not have a history for accurately predicting results. Such risk analysis was used in California and Oregon but failed to predict toxic reactions from eating watermelons sprayed with a pesticide at 1/5 the NOEL just a few years ago. (Witt, James M. and Sheldon Wagner, 1986 Aldicarb poisoning. Letter to the editor Journal of American Medical Association 256:321B.

Regarding risk: VMEIS implies that there is more human health risk associated with manual methods of VM than with herbicide treatments. My question is, "How can USFS honestly compare the assumption of voluntary risk taken by a person who is being compensated to perform manual VM against the involuntary risk a forest user is being forced to accept through exposure to herbicides?" Considering the genetic and mutational activities inherent in most herbicides which have been thoroughly studied, what consideration has USFS given to the involuntary "secondary" risk being forced upon the unborn (or even the yet-to-be conceived) children of the future?

Herbicide use on our public lands involuntarily exposes the forest user to these untested and questionable chemicals. Aside from exposure by the average, healthy forest user, herbicide use on national forest lands involuntarily exposes individuals who exhibit a range of reactions from lower than normal NOEL's to possible toxic, immunological, neurological and allergic reactions. Thus endangering their lives and preventing them from fully enjoying their national forests. It would seem that USFS is inadvertently planning to violate someone's civil rights.

I would like to see a completely new document. One which has less propaganda and more concern for the management practices which make VM necessary in the first place. One which is more easily understood---without so much effort going into the apparent disguise of facts and confusion of the issues.

I wholeheartedly support the NCMWA recommendation for a modified Alternative D including a long-term study to eliminate the need for vegetation management through more ecologically sound timber practices, such as NCMWA's Flexible Forestry along with an integrated pest management program emphasizing prevention; allowing natural processes to work; employing least invasive and least toxic methods; following-up monitoring and evaluation to fill in data gaps. The following modifications are needed to make Alternative D a viable alternative:

- A) Reduced management to 75,000 total acres per year in light of possible revisions and amendments to current LRMPs.
- B) Use of only low intensity prescribed burns (flame length/height 3' or less) and only upon acreages which have not had herbicides applied in the last 10 years.
- C) No firewood permits for any herbicide treated wood.

7 Quantitative risk assessment has been in general use since the late 1970's. While not perfect, it has an excellent track record. The case referred to was one of an unpredicted synergism which was overlooked in the analysis. Reasonably foreseeable synergisms with potential to cause significant effects have been considered in this EIS (40 CFR 1502).

8 Permitting use of non-persistent herbicides on fewer than 25,000 acres annually in forests with a land base of 2,700,000 acres does not "force" exposure of our publics to these low-risk herbicides. If either preference or medical needs cause avoidance of treated areas, less than .1% of the forests will be off limits for a short period of time. Visitor activity in treated areas is voluntary as is risk assumption.

Our approach was to use all existing health and safety data together with our Risk Assessment models to do as detailed an analysis of comprehensive health and safety effects as possible. The analyses were subjected to rigorous scientific review (EIS chapter V) and have broad support for their thoroughness and conservative overestimates of potential risk.

Comparisons are difficult; however, with all the required mitigation incorporated and the conservative analysis of herbicides, we think a comparison can be made and is necessary to assure the best health and safety to our workers.

9 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

10 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk.

11 The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

12

Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

John E. Alcock, Regional Forester, Southern Region, Nov. 6, 1989 - page 3

D) No intervention in habitats which might support any threatened, endangered, or sensitive species until long-term studies indicate impacts are appropriate to that habitat. If left alone, these areas will have a more stable habitat with fewer human disturbances and more natural disturbances taking over to which they are already adapted.

E) Emphasizing manual methods of treatment with some low intensity mechanical treatments using only tractor drawn farm equipment which would expose no more than 1/4" of soil on the site.

F) Maintenance of mixed forest condition with a mix of species in various sizes and numbers as existed on each stand prior to manipulation which is considered in conjunction with harvest methods.

G) Increased use of uneven aged timber management such as group and individual tree selection to regenerate white or red oaks and hickory which should greatly reduce the need for any further vegetation management.

H) Use of biological treatments which do not include domestic animals.

I) Implementation of all vegetation management activities should be vigorously monitored to insure compliance with final EIS. The majority of current health and safety problems are violations of current standards and guidelines. (see attached affidavit concerning spills onto worker of herbicides on Buffalo District of Ozark/St. Francis this last April by Bernie McCabe)

J) No use of prescribed burns on mixed and hardwood stands.

K) ROW's managed as linear wildlife plots and planted with low growing grasses and browse.

These are not significant modifications to alternative D and may easily be incorporated into LRP's by amendment to the Standards and Guidelines as the other Forests have done in Region B.

I would hope that my response, and the responses of others, could persuade USFS to surrender (or even soften) its pro-chemical industry stand, but I believe USFS will continue to drag its feet on the road to realizing true progress in regard to the health and wealth of a fragile but diverse and ecologically sound Ozark National Forest---not destroyed, but protected for use by the general public (instead of special interests)---the real wealth of our nation, the promise of the National Forest system... Clean air, pure water and the conservation of our precious soil.

In summary I am opposed to the use of herbicides on national forest lands. There are unknown and unacceptable risks associated with their use and viable alternatives do exist. Therefore, I do not accept the risk associated with the use of herbicides on national forest lands and strongly request that public lands not be managed with their use.

Cecille H. Morin

Cecille H. Morin
HCR 72 - Box 59

13 Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to loss of some species.

14 Pages I-10-12 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-12 states those activities which are outside the scope of the EIS.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, to that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

15 Monitoring is required by the Vegetation Management EIS, its accompanying Record of Decision, and by Forest Plans.

16 See mitigation measures 20, 21, 22, and 23 on page II-45 of the Draft EIS.

17 There is no bias towards the use of herbicides. The Draft EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Ozark and Ouachita Mountains methods other than herbicides are projected to be used on 75 percent of the total acres treated in the preferred alternative F in the Draft EIS (page II-12). The EIS simply shows that the preferred alternative, with its mitigations and inherent constraints, would improve treatment effectiveness with minimal adverse impacts. Furthermore, the determination of the most appropriate tool for a project must be made at the project level based on a site-specific analysis. A reasonable range of alternative methods, including the use of methods which do not involve herbicides, will be examined and evaluated, and IPM principles must be incorporated (Draft EIS pages II-38-41).

IH

Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: As with so many things we do in this country for quick profits, the long-term effects of herbicides cannot have been determined. In the 16 years we have lived here, the death rate is high. Does any agency make any effort to examine these deaths?

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and return in the mail (no postage necessary).

Name: Alberta F. Welles Last (Organization)
City: Pass, AR State: AR Zip Code: 72612

Tear at perforation

Response to Comments in Letter No. 762

From: Alberta F. Wells

Comment No.

Response

1

Your concern about herbicide use has been included in the content analysis of all comments received.

None of the herbicides proposed for use in the Draft EIS were found to be carcinogenic. Please see appendix A (Risk Assessment).

While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The study is very inadequate in terms of data and analysis provided. Why? Insufficient alternative management strategies have been provided. This seems to be a superficial report. Comments on Alternatives: designed to allay lay-person concerns, rather than an in-depth study.

Why?

The 600 page draft did not illuminate basic issues

Comments:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside a drop in the mail (no postage necessary).

Name: Wendy M Wallace
First MI Last (Organization)
600 1/2 Whitman
Street
Fayetteville AR 72701
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 163

From: Wendy Wallace

Comment No.

Response

1

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: As physicians, my husband and I are opposed to the widespread use of herbicides for vegetation management on public lands.

We do not yet know the potential long-term effects of these herbicides and their break-down products on human health. Such widespread use as you are proposing would cause significant buildup in the environment and would expose many people to wildlife through ground water contamination. **Comments on Alternatives:** pinus released by being

We support alternative D.

Why? It reduces total acres of vegetation management.

Other: We are also opposed to clear-cutting and the conversion of large areas of public land from hardwoods to pine.

Why? Clear cutting is destructive to wildlife, causes soil erosion and harms water quality in streams. We are proud of our beautiful hardwood forests and don't want them destroyed for purely economic motives.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

NANCY + HAROLD HALLER
 Name First Last (Organization)
HCR 31 Box 14
 Street City State Zip Code
JASPER, AR 72441

Tear at perforation

Response to Comments in Letter No. 164

From: Nancy & Harold Haller

Response

Comment No.

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
 Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
- 3 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
 With respect to smoke, please response to comment number 4, Letter No. 245.
- 4 Your preference for alternative D was included in the content analysis of all comments received. Note that alternative D does not reduce total acres treated (see table II-4).
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 5 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

1 Comments on Alternatives: I prefer alternative D.

Why? I do not want herbicides used at all in our National Forests. The risk of ground water contamination does exist and will do nothing but add to the already from extensive ground water contamination that exists from other sources.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization) Barbara E. Raulston
Street City State Zip Code
203A Florence St Fayetteville, AR 72703

Tear at perforation

Response to Comments in Letter No. 765

From: Barbara E. Raulston

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance. 2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

RED ALERT! RED ALERT! RED ALERT! RED ALERT!



RED ALERT! RED ALERT! RED ALERT! RED ALERT!

HERBICIDE USE IN OUR NATIONAL FORESTS!

United States Forest Service (USFS) has just completed the Draft Environmental Impact Statement for Vegetation Management in the Ozark/Ouachita Mountains and has requested public comments on it by November 6, 1989. Summary copies should be available at all local Forest Service offices.

USFS defines Vegetation management as manipulating plants by means other than timber harvest such as site preparation, maintenance of road and utility rights-of-way, and timber stand improvements. These include the killing of undesirable vegetation, for timber management purposes, such as dogwoods, rebuds, red maple, and even oak and hickory in stands the USFS manage for pine. Methods planned for use include herbicides, manual, mechanical, fire, and biological means. USFS preferred alternative proposes to use a mix of all these methods on 101,174 acres/year, with the planned use of herbicides of 24,492 acres/year in Arkansas.

--0--

NCWA is a nonprofit community organization incorporated in 1980 to increase public awareness of critical environmental issues. We believe that the use of herbicides poses an unacceptable risk to us and the environment and feel strongly that public land should not be managed with their use.

Please take 15 minutes to read these pages and write down your comments on postage paid form and mail it in by Nov 6, 1989. We've enclosed suggestions for substantive comments with a list of possible reasons as to why you feel your comment is valid. Add your own emphasis and make your own personal comment (THIS IS MOST IMPORTANT!). Finally state which alternative you support or prefer. Only alternative A & D propose no herbicide use. Handwritten comments are fine.

This will be your last chance to comment on vegetation management for at least another 10 years. Together we can make a difference. Previously, similar plans in Region 6, received only 348 comments from a total of eight states. We ask your support to end herbicide use in our National Forests now! For further information contact: NCWA, Box 189, Jasper, Ar. 72641 or call 501-446-2374. We will get back with you as soon as possible, thank you.

SUGGESTIONS
for
Substantive Response to
U.S.F.S. VMDEIS

- 1 I am opposed to any future herbicide use by the USFS for vegetation management because:
 - ① of extensive "data gaps" in the human risk and wildlife risk assessments as stated on pages IV-8 & 9, and III-66 & 67, vol 1.
 - ② VMDEIS makes unjustified assumptions about "acceptable risk" involved with herbicide use. Before one can determine if a risk is acceptable it is necessary to ask the question, "acceptable by whom?" The use of herbicides poses an unacceptable risk to me through possible ground water contamination, adversely affecting my quality of life.
 - ③ of significant need for further research to fill these data gaps as stated on page IV-147, vol 1.
 - ④ VMDEIS makes arbitrary use of quantitative risk assessment without an adequate data base, which was lacking for the majority of herbicides proposed for use.
 - ⑤ no qualitative risk assessment was performed to determine the accuracy and verifiability of data used to fill large data gaps. Many times no risk was assumed even though no studies had been done to determine all possible effects.
 - ⑥ herbicide use on public land involuntarily exposes those extremely sensitive people which exhibit a range of reactions from lower-than-normal "no observed effects levels" to many possible toxicity reactions thus greatly endangering their lives, and exposing them to unacceptable risk.
 - ⑦ VMDEIS fails to assess final responsibility for any unforeseen adverse environmental impacts. The chemical companies that make the herbicides have warnings on the labels which read "use at your own risk". USFS application contracts place the responsibility for any spills on the contractor. Finally, we the people will bear the ultimate responsibility for these unforeseen impacts if we allow herbicide use to continue.
 - ⑧ there are huge data gaps in the research information used for developing the risk assessment portion of VMDEIS and the scientific uncertainty in modeling used to fill these gaps was not discussed in the document.
 - ⑨ It is my perception that the risk is unacceptably high and feel justified in recommending that our public lands not be managed in this way.

Response to Comments in Letter No. 166

From: Kevin V. Sexton

Comment No.

Response

- 1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored; in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 2 Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.
- 3 See our response to comments in Letter No. 3, Comment No. 2 regarding your concerns about groundwater.
We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.
- 4 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking we identified the lack of data and explained how the Risk Assessment dealt with the gap.
- 5 We are unclear as to the purpose or meaning of a "...qualitative risk assessment..." 40 CFR 1502.22 requires the Agency's evaluation of impacts based on theoretical approaches or research methods generally accepted by the scientific community. It does not require a specific method be used. Selection of data for inclusion in our risk assessment process was based on quality and relevance to the process.
The criterion proposed "...to determine all possible effects..." is at variance with 40 CFR 1502.2(b) which states: "Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues..." and also is inconsistent with 40 CFR 1502.22 which deals only with "...reasonably foreseeable significant adverse effects on the human environment..." "...All..." is not an acceptable criterion.

- 10) VMEIS did not fully analyze all potential impacts and risks to water quality in geological regions containing karst areas, especially where lime sinks have created areas of rapid internal drainage during heavy runoff.
- 11) there are no water quality standards for most herbicides planned to be used since EPA and individual states have failed to set any standards for them. USFS claims to meet the strictest drinking water standards set by EPA of .100 ppm for 2,4-D the only one they have information on. The rest are assumed safe if amounts don't exceed those for 2,4-D.
- 12) due to a lack of scientific data, VMEIS does not adequately address the adverse impacts of burning herbicide treated vegetation. It says nothing of possible dioxin, difurans, chlorine gas, hydrochloric acid, cyanide, phosgene gas, or chlorine dioxide being contained in the smoke from prescribed burnings in these same areas. I recommend that there be no prescribed burnings in any stands treated in the past with 2,4-D which contained a small amount of TCDD, the deadliest form of dioxin and poison known to mankind. These dioxin breakdown products are extremely long lived and could be spread from the site in the smoke since they are not destroyed at low temperatures.
- 13) Quantitative risk analysis is a relatively new tool and does not have a proven track record for accuracy when predicting results. Such a risk analysis was used in California but failed to predict the effects of severe poisoning from eating watermelons sprayed with a pesticide at 1/5 the levels predicted to cause any effects.
- 14) worst case analyses are over conservative in their estimates for extreme spills. What if a helicopter crashed into a refill tanker? What if vehicle carrying herbicides crashed and spilled its entire contents? Spills onto workers this last April in the Buffalo District exceeded the project's worst case scenario thus proving that even the finest mitigation measures work best on paper.
- 15) LC50 and LD50 are inadequate alone to determine risk to humans and wild life since they take into account only acute toxicity. Long-term, low level toxicity studies have not been done to predict the cumulative, synergistic long-term effects.
- 16) there are no studies of the synergistic and cumulative effects using full formulations of herbicides and their secret inert ingredients. This is a serious oversight since one of the inerts in 2,4-D was dioxin.
- 17) the "no observed effects levels" are too high, and are based on modeling and guesswork from rabbit and rat studies in order to estimate effects upon humans and are completely unverifiable.
- 18) the risk assessment does not consider whether some of the herbicides may be tumor promoters or enhancers, or initiators of cancer in combination with other compounds that could cause cancer.
- 19) neurological and immunological data is unavailable for all herbicides listed since EPA does not require these at the present. These impacts are not considered. Hexazinone applicators have frequently complained of headaches from breathing vapors all day, a situation which indicates a need for these studies.

6 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.

In addition, mitigation measure No. 16 (page II-56, in the Draft EIS) requires signing of treated areas. The public, having been notified of treated areas, must take reasonable precautions to avoid situations which pose undue risk. Sensitive individuals must also use common sense and avoid areas which have been treated with a herbicide to which the individual is sensitive!

7 We agree.

- 20) bioaccumulation of herbicides is insufficiently assessed since studies used to project long-term bioaccumulation were only 4 day elimination rate studies. Studies in Sweden have found herbicide residue levels up to 6 ppm in liver and kidney tissues of 250 different wildlife species. This indicates that herbicides are much more persistent in the food chain than previously believed, and it increases the possibility for bioaccumulation in humans who eat those species of wildlife.
- 21) of unmentioned possible adverse effects upon biodiversity on National Forest land since herbicides disrupt the natural ecological processes through reduction in biomass and composition, and abundance of ground cover to protect soil from erosion in recently cutover areas.
- 22) herbicide use does not contribute to the local economies well as the highest rate of employment in an area with one of the highest rates of unemployment in the south. This would mean increased local returns to the economies: over \$40 more per acre than with herbicide use.
- 23) large data gaps exist in research regarding the breakdown products and metabolites for full formulation of herbicides and their inert ingredients.

I am further opposed to use of any vegetation management methods which threaten, endangered or sensitive (TES) plant and wildlife habitat because. If left alone, these areas will have a more stable environment with fewer human disturbances and more natural disturbances taking over to which TES species are already adapted.

I am opposed to intensive mechanical site preparation since the negative effects on soil and water quality are well known and severe enough to warrant a complete elimination of this practice on public lands.

WDEIS fails to consider a full range of alternatives per NEPA when it did not include integrated pest management alternative such as presented by Norma Greir in Region 6 emphasizing prevention for need of VII and allowing natural processes to work, employing least invasive and least toxic methods, and using follow-up monitoring and evaluation to help fill in data gaps. It failed to consider a full range of alternatives when it did not include an alternative with reduced number total acres other than alternative A. These total acres to be treated are tiered to LHRP's which are currently under appeal and revision concerning overreliance on even aged management techniques which necessarily involve more site prep and TSI work.

Therefore I support, by reference, the NCVA modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A, no action.

>>>> Finally, I do not believe the risks are acceptable for herbicide use and do not believe that public lands should be managed with them. Thank you for this opportunity to comment.

Name: Kevin V. Saxon Last (Organization)
Beical Delivery
 City: Alto State: Al. Zip Code: 72856

United States Forest Service,

I want to express my concern about the plan you have to manage our forest.

In my opinion there are no acceptable risks to take where poison is concerned.

That is like saying people should do drugs like acid because the chance of it killing you is not great & the effects are worth it. Several years ago people thought that way. Until enough research. Now even the belated aspirin can be poison to a baby.

Until you really know you don't nor can't know, I don't want to accept those risks nor leave them to my children.

You don't know the residual effects over years of buildup. Only time will tell. I have seen a grass plot die away after a few months of walking on it by my mother-in-law. He sprayed you poison & got it on his clothes & shoes. It turned even his two people. After a few months of doing his laundry.

Response to Comments in Letter No. 767

From: Sally Sexton Smith & Joseph Grant Smith

Comment No.

Response

- 1 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

the tree around their apertures. Also, there were not sullages, they were 50 ft tall mature trees. There were not apparent reasons for the tree dying. After talking to some of the other wives said they had no kind of a whole some of these same things.

At what point do these poisons break down? Or are they like plastic & glass, they never do die, they just get smaller but can accumulate.

It takes ⁶minors years to develop black lung but to start with there are "no observed effects" when you say there are "no observed effects" how long a time was this observed? 10 years?

20, 50, 100? Over 200 years of this will we regret we were dumb enough to accept these risks. And who will accept them years from now?

Your children & mine. Are we in such a hurry to manage them, for we are blind to what the right thing to do is?

like no trial since concerns about this came up the USFS has stopped up

NOEL's are evaluation of the highest dose of a chemical administered on a subchronic or chronic basis which causes no observable effect in test animals. It is scientific data not an arbitrary point. Thus, it is neither "...too high..." nor is it too low. The lowest NOEL among all tested species is taken to be an approximation of the human NOEL, and then a safety factor of 10 is used to make a more conservative (risk reducing) estimate. For further information see the discussion of Margin of Safety on pages 5-1 through 5-3 of the risk assessment (appendix A) and the discussion beginning with "Hazard Identification" on page IV-4 and ending with the discussion of "cancer potency" on page IV-8 of the Draft EIS.

③

the speed in which these things are done.
How can you let the very company, that makes these chemicals, test them for safety? That's like letting the cat wated over the bird.

There are enough people needing jobs that the uses of these poisons are not necessary. The trees you poison could provide fire wood to heat homes or any thing but once they are sprayed you can't use them nor can any animal use it with out risks. But animals don't know it not safe. So a very profitable hunting season, for both local business & in revenue of hunting licenses, is at risk too!

There are the reason I am against herbicide use. I do not believe that the forest is being managed to the best interest. I feel a lot of F.S jobs are unnecessary & management is not worth the cost, economically or ecologically.

I support the NMA's modified alternative D" with reduced total acreage of vegetation management.

4 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

5 Evaluating wildlife and aquatic species risk using LD₅₀ and LC50 data is the method described by EPA in the EPA Office of Pesticide Programs' document "Hazard Evaluation Division--Standard Evaluation Procedure: Ecological Risk Assessment." For the EIS we have accepted and utilized this procedure. Additionally, the herbicides do not bioaccumulate (page 8-2 of appendix A), so cumulative effects are only likely where multiple exposures are received in a short period of time. We agree that acute toxicity is a poor indicator of possible long-term health and reproductive risks to wildlife. Where available chronic and subchronic toxicity tests are reported. Gaps in the data are acknowledged and modeling of surrogate species is used to estimate potential long-term effects.

6 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

I think it would show much more concern for these words for manual management & totally stop concerns about the use of Posimo.

Look beyond today well there be wata & trees left for our descendants who will they look back on & say was right? do you want to take these kinds of chances? How many mistakes have been made cause some one got in a hurry? What will the costs be?

costs more than your job, its the forests future. In terms of the forests age your career is nothing unless you make the wrong choice.

Sally Seyton Smith
HCB30 Box 96D

Peboi, A.R. 72856

501-294-5348

(5TH generation Newton
Cambian.)

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

I agree with Benton County Wildlife Assoc on Plan D

Comments on Scientific Analysis: too much use of herbicides for control & manipulation of what the USFS considers no-profit trees, beech, dogwood, Paw Paws,

Why? A total monoculture of pine (however obtained) is not diversified nor does it allow proper habitats for bear, deer, & a swamy of bird population; these poisons accumulate with time, is the lower food chain.

Comments on Alternatives: clear cutting just loses tons of precious soil, by erosion, destroys a little at a time the whole forest

Why? a natural stand, managed by limited fire logged by mule and limited equipment won't destroy the soil or scare off species of game, or poisons as much Other: these forests belong to everyone if everybody could see what it does it would stop.

Tell me how you guys save soil, or rare things, who plans the forest for you can they compete with Gods start, tell me

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

by the way, my people came to these mountains in the 1840s (I've seen your poison tests for years) so get your facts right and tell us how you can help us. I've never considered these unacceptable fish with the world.

Name: Joseph Grant Smith First MI Last (Organization) HL 30 Dr 96 D City: Pelsor Ark State: Ark Zip Code: 72856

7

Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk long mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

8

In this EIS, we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, page II-38-39) recognizes the requirement for managing to maintain biological diversity.

9

The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

RESPONSE FORM

← Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 **Comments on Scientific Analysis:** The analysis does not go far enough in assessing long-term risks from low-level exposure to these herbicides, smoke from burning herbicides, the animals and fish that have been contaminated and may be eaten by people, etc.
- 2 Why? The public deserves a forest that is not ruined and contaminated with poisons. How can all of you decide what is acceptable risks for us and our children and future generations? The forest did fine on its own for hundreds of Comments on Alternatives: years. Leave it alone. Alternative #A would be the ideal, but since no one will even consider it, I propose #D but with decreasing acreage treated every year, more manual treatment and less mechanical, which would also create more employment.
- 3 Why? I don't believe the forest should be treated and I think all forest cutting should be strictly forbidden on public land. We do not want to see the natural oak forest torn down and replaced with pine. It would destroy the Other: whole ecology. There are many animals that live in old hardwood forest and cannot survive on the pines. If you use less invasive methods you would not need the herbicides and Why? forest you would take care of itself.
- 4 Please don't declare war on nature. The forest is a beautiful place and a privilege to be enjoyed by generations to come, please respect it and don't destroy it.
- 5 (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
 Lisa M O'Connor
 Street: HCL 61 Box 175
 City State Zip Code
 Elkins Ark 72701

← Tear at perforation

Response to Comments in Letter No. 768

From: Lisa M. O'Connor

- | Comment No. | Response |
|-------------|---|
| 1 | Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk. |
| 2 | We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3. |
| 3 | Your preference for alternative A or modified D was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance. |
| 4 | Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut). |
| 5 | The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.
While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B). |

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 Comments on Scientific Analysis: It doesn't address how the Herbicides might filter through the Fractured Substrata of the OZARK & Ouachita Regions into the streams where it would kill Algae and affect the food chain. Why? on down the Stream.
- 2 These Herbicides are designed to kill vegetation and would also kill Algae thus adversely affect non-target species. Comments on Alternatives: I am against any use of Herbicides on public lands
- 3 Why? Because of Extensive Data Gaps and the Need to put as much money into the local Economy rather than supporting Dow Chemical.
- 4 Other: I support a modified D with low intensity fire and manual methods to control vegetation on a reduced # of acres - leaning towards Alternative A - No action.
- 5 Alternative A is not practical. The next step (costwise) is D - \$28.87/Acre, there needs to be an alternative with a cost/Acre between \$0 & \$28.87 to provide an adequate range of Alternatives. (Additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First M Last (Organization)
 Ollie M Maxfield
 202 OAK ST
 Street City State Zip Code
 FAUETTEVILLE AR 7203

Tear at perforation

Response to Comments in Letter No. 769

From: Ollie Maxfield

Comment No.

Response

- 1 The worst case situation evaluated -- percolation/leaching through an Astatula sand -- is a significantly worse case than that presented by fractured sedimentary rock overlain by a layer of soil containing organic matter. Karst areas are protected from application of herbicide by mitigations presented in chapter II section #.2.c of both the Draft and Final EIS.
 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 2 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
- 3 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.
- 4 Your preference for alternative modified D was included in the content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 5 Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. Costs per acre shown in table II-8 result from varying all these factors. We did not establish target costs then develop a program which would produce them.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

This study pays essentially no attention to the problems of ground water contamination by herbicides. Much of the forested land in this area are underlain by permeable rock rocks which are highly fractured. The degree of fracturing is such that destruction of ground water quality is inevitable. Biological organisms are also more vulnerable than life forms present in ground water will be destroyed & the lower soil the lower the Alternatives: chain decomposition.

I support alternative D with reserves for all areas. The only acceptable methods of management are integrated pest management and fire management.

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Dr. John C. Dixon
Department of Geography, University of Arkansas
Street City State Zip Code
Fayetteville, AR 72701

Tear at perforation

Response to Comments in Letter No. 177

From: Dr. John C. Dixon

Comment No.

Response

1

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

The worst case situation evaluated -- percolation/leaching through an Astatula sand -- is a significantly worse case than that presented by fractured sedimentary rock overlain by a layer of soil containing organic matter. Karst areas are protected from application of herbicide by mitigations presented in chapter II section #.2.c of both the Draft and Final EIS.

Note also that an entire appendix (C) is devoted to analysis of the questions you raise.

2

Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan.

Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I don't believe that the long term effects of herbicides have been fully addressed. All studies done on the herbicides to be used are rated as acceptable risk based on short term studies only. Nothing is known of long term effects. Why? Some of the herbicides to be delivered aerially contain small traces of dioxin compounds. This substance has shown a tendency towards a long life and is spread by wind and water further than originally thought.

Comments on Alternatives: The motivation to use chemicals in all forms of agriculture is supposed to be the labor saving aspect. So I want to mention a manual approach to forestry management. It seems to

Why? Although this (manual) method is the only truly safe method and labor intensive. I realize that a supposed free enterprise company that has to have my tax dollars support the cutting of public forests is not going to try a labor Other: intensive approach.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
James L. Hicks
617 S. Government
Street
Fayt Ark. 72701
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 771

From: James L. Hicks

Comment No.

Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk long mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require. None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

2 We discuss relative safety of all methods on pages IV-25 through IV-29 of the Draft EIS. Our analysis shows manual methods are least safe.

Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 I oppose ALL use of chemical fertilizers and pesticides and herbicides on all public lands, now, and in the future. DATA GAPS in your study on what is acceptable herbicide use is NOT acceptable to me. Why? THEY ARE HARMFUL to the natural environment including our watershed. Chemical companies are interested in selling their products not the health of our people + wildlife + forests.

2 Manual methods of vegetation management help the local economy + that is what I prefer.

3 Improved local returns to the counties where the forests are located. In addition the long term effect on the national forest is far better than herbicide use.

4 Other: ARE ANAS support the Newton County Wildlife Area, modified alternative "D" was reduced total acres of vegetation management.

5 Why? Because I don't want our public lands to be the dumping ground for untreated herbicides. Remember, our own government has one thing through spraying 2-457 on forests only sprayed the trees.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name, First MI Last (Organization)

Joseph J. Morgan

Street

PINE PLAZA NO. 3

City State Zip Code

HARRISON ARK. 72641

Tear at perforation

Response to Comments in Letter No. 172

From: Joseph J. Morgan

Comment No.

Response

- 1 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
3 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
4 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
5 Your preference for alternative modified D was included in the content analysis of all comments received. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: There are no studies of the combined + cumulative effects using full formulation of herbicide. This is a gain to any serious analysis and is a grave oversight.

2 Why? I am totally against the use of herbicide as a small method for vegetation management on public lands. - It is very short-term thinking with a huge risk factor for the public's health which is unknown. Comments on Alternatives: I support the NCA's modified alternative D with reduced agro-vegetation management.

3 Why? The note for herbicide use are unacceptable.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First Last (Organization)

1031 Oldcourt Jr

Street Fayetteville, Ark 72703

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 774

From: Morton Newmark

Comment No.

Response

1 Neither cumulative nor synergistic effects have been reported for any of the 11 herbicides discussed. Short half-lives and rapid excretion rates for all of the herbicides suggest that either synergism nor accumulation pose a problem. All data found in the literature and Region 8 accident reports has been included for consideration; no evidence of synergistic or cumulative effects has been discovered.

Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.

Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.

2 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

3 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

1 Science has a long history of mistakes when it comes to use of chemicals (i.e. DDT, Agent Orange, dioxin, PCB's, etc.) We have no idea of long term effects on life and immediate effects on our water quality.

Comments on Alternatives:

2 I prefer Alternative A or D.

Why? I live in the Ozark mts. and want no herbicides used in our area. Aerial spraying is unacceptable.

Other: The forest and its wildlife belong to all citizens, not the small percentage in the logging industry.

Why? Unlike in the past, you have a duty to manage the forest for future generations - our forest is hardwood and large game. We do not need more pine plantations.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Glenda Sade, First MI, Last (Organization) Waldorf Rt Box 258, Street, City Ogone AR 72854, State AR, Zip Code 72854

Tear at perforation

Response to Comments in Letter No. 775

From: Glenda Cade

Comment No.

Response

1 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Your preference for alternative A or D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 **Comments on Scientific Analysis:** Chemicals approved by the Forest Service for use on National Forest lands should not be restricted for prescribed use.

Why? With continued increasing restraints on the amount and intensity of harvesting timber, there is an increased need to intensify site preparation to assure the long term continuity of the pine components of the National Forests of the south.

2 **Comments on Alternatives:** Alternative H permits the most cost effective means of achieving maximum vegetation control for the establishment of new stands of pine.

Why? Restricting the tools available to the National Forests as provided in other alternatives simply means a poorer and more costly way of regenerating pine.

3 **Other:** Much more can be done on National Forests by way of partial cutting utilizing improvement/ thinning technique. Five or six acres should be cut this way for each acre of harvest cutting.

Why? The public will see this selective cutting without embracing completely an all aged form of management, which is more expensive.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Richard F. Kennedy - Georgia-Pacific
 Name: First MI Last (Organization)
 601 E. 3rd Ave
 Street City State Zip Code
 Crossville Ark. 71635

Tear at perforation

Response to Comments in Letter No. 776

From: Richard F. Kennedy

Comment No.

Response

- 1 He evaluated only those products which have been identified as being proposed for use by our on-the-ground managers. There are many other products which are available for use, but our failure to analyze them does not indict them in any way. It just means we don't plan to use them.
- 2 Your preference for alternative H has been included in the content analysis of all comments received.
 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.
- 3 Timber harvest is not addressed by this EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The Scientific analysis of the Ozark/Ouachita forest needs has been adequate, in my opinion

Why?

Comments on Alternatives: I wish to support Alternative H as the most appropriate vegetative management option.

Why? Alternative H will allow the managing foresters to choose the most effective and economical silvicultural method to fit their forest management needs.

Other: Effective treatments should be available for the

broad range of site needs found in the Ozark/Ouachita Why? forests

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

RICHARD A. WILLIAMS
Name: First MI Last (Organization)
1207 CHESTNUT ST.
Street
CROSSETT AR 71635
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 111

From: Richard A. Williams

Response

Comment No.

- 1 The Interdisciplinary Team is pleased you feel the analysis is adequate.
2 Your preference for retaining all legal and environmentally sound tools for use in vegetation management has been included in our content analysis of all the comments received. Alternative H provides for analysis of the full range of treatments and their effects.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I do not think you have done adequate scientific analysis especially around herbicide use.

1 Why? what about burning herbicide contaminated vegetation? i.e. toxic smoke. 2 Stream contamination? 3 Ground water contamination 4 HUMAN ERROR

Comments on Alternatives:

1 THE ALTERNATIVES ARE INADEQUATE -

2 Why? NOT ENOUGH EMPHASIS ON NATURAL PROCESSES i.e. sprouts come where oak grows. Maybe pine is inappropriate. What about less toxic + less invasive methods

3 So I chose D with a reduction of mechanical & fire use.

4 Why? BECAUSE IT'S THE ONLY ALT. OFFERED THAT MAKES ANY SENSE EXCEPT FOR A WHICH YOU'LL NEVER go for.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside or drop in the mail (no postage necessary).

Name: Joanne Olszewski
First MI Last (Organization)
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 778

From: Joanne Olszewski

Comment No.

Response

1 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.

2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

The concern for human error is one of the reasons we have required application rates to be less than one-half the label rate and why we require the 32 stringent mitigation measures shown on pages II-52-58 of the Draft EIS.

3 Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. Costs per acre shown in table II-8 result from varying all these factors. We did not establish target costs then develop a program which would produce them.

Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on pages II-38 through II-59 are designed to cause the least environmental impact.

4 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

Why?

Comments on Alternatives:

Why?

I thoroughly agree that Alternative H is the right choice. If other types of vegetation control don't work then we can go to another. As time goes on change change and we need to be ready and able to also change if necessary. We must obtain the maximum from our forests, but at the same time not destroy them for future generations.

Robert W. Burke

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
R 3 130X 25A
Street
MARIANNA, AR. 72360
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 779

From: Robert W. Burke

Comment No.

Response

1

Your preference for retaining all legal and environmentally sound tools for use in vegetation management has been included in our content analysis of all the comments received. Alternative H provides for analysis of the full range of treatments and their effects.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Dear Timen -
 The report I have just read
 is the most frightening I ever
 heard of! How will anyone - I
 can feel free and happy to visit
 our beautiful forest? I know
 Comments on Alternatives: I lack to visit them
 that if I go, I'll be afraid to breathe
 I will forever. I can leave again
 freely until I can leave again on
 Why? We can never take children on
 nature tours again, and feel they
 are safe. For encourage has to be
 Besides, the cost alone
 tremenda. Where does the money come
 from? Are they trying to start a
 different kind of warfare? Combat it?
 And breathe poison on the process?
 Thank you for enlightening me!
 Please address additional sheets as necessary

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name First MI Last (Organization)
 Mrs Rose F Taylor (Self & Teacher)
 Street
 HCR 72 Box 318
 City State Zip Code
 Jasper, Ar. 72641

Tear at perforation

Response to Comments in Letter No. Z80

From: Mrs. Rose F. Taylor

Comment No.

Response

- 1 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
 The preferred alternative proposed in the Draft EIS has less amount of herbicide proposed and less than one-half application rate than currently approved for use.
 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.
- 2 The cost of this program is less than the current program. Please refer to the comparison of alternatives on page II-70 of the Draft EIS.

NOVEMBER 1, 1989

USDA FOREST SERVICE
ATLANTA, GEORGIA 30367

COMMENTS — SCIENTIFIC ANALYSIS

- 1 Your Scientific Analysis is superb, but what effect will the various herbicides mentioned in Vol. One have on acid rain found in the Eastern National Forests and adjoining areas e.g. National Forests in North Carolina. Acid rain is beginning to enter Arkansas. How does acid rain chemically react with the various herbicides mentioned in Volume One? Are you planning to use herbicides within one mile of wilderness areas in the OZARK and OUAHATCHA NF?
- 2 COMMENTS — ALTERNATIVES
The best ALTERNATIVE is A. I think both ALTERNATIVE A and F is the best for the State of Arkansas. A and F should be alternated over a ten year Vegetation Management Cycle. The Key to Vegetation Management is being flexible in your planning, do not get locked in on ALTERNATIVE F only. If you merge A + F into one plan the benefits to the environment and to pocket books of the people of Western Arkansas would be satisfied. The people would have money and the environment would not be drastically disturbed. One page II-28 of Vol. One
- 3
- 4

Response to Comments in Letter No. 781

From: Vernon E. Bass, Jr.

Comment No.	Response
1	Our analysis did not show any significant contributions to global problems such as acid rain. Our analysis is based on naturally occurring environmental conditions which in this study area involve pH's below 7. We are unaware of any problems created by these conditions.
2	We state in chapter III, page III-11 of the Draft EIS, that vegetation management is not generally practiced in wilderness areas. There are circumstances where natural or prescribed fire may be considered so as to protect threatened and endangered species or reduce unnatural fuel buildups. These decisions will be based on appropriate site-specific analysis and goals and objectives contained in individual Forest Land and Resource Management Plans.
3	Areas within one mile may be eligible for selective stem treatment with herbicide depending on the results of a site-specific analysis. For buffers required when treatments occur and other mitigation measures required, see pages II-52-59 of the Draft EIS. Your preference for alternating alternatives A and F was included in the content analysis of all comments received. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
4	These are pictures of tools either recently or currently in use for forest management in the study area. However, only low intensive mechanical tools are planned for the preferred alternative.

USDA Forest Service

PAGE TWO

There are some disturbing photos that look like things one would see in the RENDONIA DISTRICT of BRAZIL. Are these machines used in Southern National Forests? These machines appear to be connected with clearcutting. I hope your Management Plan is not part of the Forest Service Clearcutting Program (Even age Management). If it is the only ALTERNATIVE is ALTERNATIVE A for Vegetation Management. Clearcutting is as bad as the Vietnam War, Watergate, Iran-Contra, the HIV mess, the systematic looting of the Tongass National Forest by the Japanese, and the U.S. Middle East Policy.

In conclusion the various management tools i.e., plans, axes, helicopters, and etc. are good, but we are on the verge of entering the 21st Century. In the 21st Century the Forest Service should be using LASERS as a tool for Vegetation Management. NOW is the time to begin developing LASERS for Vegetation Management.

Thank you for inviting me to comment on your Vegetation Management Plan. Let me know what you decide what to do about the plan.

Sincerely Yours,

Vernon E. Bass, Jr.

5 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

6 Lasers have several applications in the forest industry already. We are watching this developing technology for additional uses.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

See attached page.

Why?

Comments on Alternatives:

See attached page

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Tommi H. Stevens *NCWA*
 Name: First MI Last (Organization)
HCR 72, Box 24
 Street
Jasper, Ark. 72664
 City State Zip Code

Tear at perforation

Comments on scientific analysis:

- 1 I believe that the VMDEIS for the Ozark/Ouachita Mountains does not adequately address the impact of herbicide use on the water quality and erosion potential for this geological region. Due to a lack of scientific data, the VMDEIS says nothing of possible dioxins, difurans, chlorine gas, hydrochloric acid, cyanide, phosgene gas, or chlorine dioxide being contained in the smoke from burning herbicide treated vegetation. I recommend that there be no prescribed burnings in any stands treated in the past with 2,4-D which contains a small amount of TCDF, the deadliest form of dioxin. These dioxin breakdown byproducts are extremely long lived and could be spread from the site in the smoke since they are not destroyed at low temperatures.
- 2 I am also particularly disturbed by the paragraph on Herbicides found on page xi of the VMDEIS Summary mandating certain precautions and safety measures to be taken. These mandates may look good on paper, but in actuality are ignored as seen last April in the Buffalo District of the Ozark National Forest when Velpar containers were spilled into the pickup truck bed, leaking through to the ground, and faulty spraying equipment caused the clothing of the persons doing the application to become saturated with Velpar. Application of the hexazinone was erratic and often too close to the streams and springs that feed from the site into the Little Buffalo water shed.
- 3 I believe that the use of herbicides disrupt the natural ecological processes and reduce the abundance of ground cover to protect soil from erosion as well as threatening the very existence of already threatened endangered and sensitive plants and wildlife habitat.
- 4 Comments on Alternatives:
I have studied the various alternatives, and support the NCWA modified Alternative D with a reduction of total acres of vegetation management and the use of mechanical and fire methods on a low intensity basis only.
- 5 I do not believe that herbicides should be used to manage vegetation in the National Forests.

Thank you for this opportunity to comment on the VMDEIS for the Ozark/Ouachita National Forests.

Tommi Stevens

Tommi Stevens

Response to Comments in Letter No. 782

From: Tommi Stevens

- | Comment No. | Response |
|-------------|--|
| 1 | Potential for the entry of herbicides into surface and ground water is discussed in the Draft EIS on pages IV-99 through IV-106. Discussion of potential sedimentation is in section IV.F beginning on page IV-85.

Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue presents negligible risk.

Please also see response number 4 to comment Letter No. 245. |
| 2 | Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients...". Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data. |
| 3 | Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews. |
| 4 | Please see the herbicide use mitigations in section II.E.2.c of the Final EIS. Many of these measures are designed to protect non-target organisms (both plants and animals) and several are designed specifically to protect threatened, endangered, proposed, and sensitive species. Also note that we are emphasizing selective rather than broadcast treatments (Draft EIS page II-12) and lower application rates (page II-53; item 4 in the Draft EIS). Silvicultural herbicide treatments are 95 percent selective in the general forest area, posing minimal risk to non-target plants and soil erosion. |
| 5 | Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance. |

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: I am opposed to any future herbicide use by the USFS for vegetation management because:

2 1. The use of herbicide poses an unacceptable risk to me and my family through possible ground water contamination, already affecting my quality of life.

3 2. The risk assessment does not consider whether some of the herbicides may be tumor promoters or enhancers or initiators of cancer in combination with other compounds that could cause Comments on Alternatives.

4 I support the NCUA modified alternative D with reduced total acres of vegetation management, the use of mechanical and fire methods on low intensity lands.

5 Why? Pursuing many manual methods with an integrated pest management approach leaning toward alternative A, no action.

6 Herbicide use does not contribute to the local economic Manual method would result in the highest rate of employment in an area with one of the highest rates of unemployment in the south. This would mean increased local return to the economic. Over 40,000 more per acre than with herbicide. I do not believe it is necessary to use herbicide for vegetation management. I would like to see a study done on the economic impact of herbicide use on the local economy. I would like to see a study done on the economic impact of herbicide use on the local economy. I would like to see a study done on the economic impact of herbicide use on the local economy.

Name: First Kurt Last Linda (Organization) NCWA
 Street Box 94 City Hardemon State Ark. Zip Code 72666

Tear at perforation

Response to Comments in Letter No. 783

From: Kurt & Linda Kuydal

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 3 Mutagenicity and carcinogenicity of the herbicides evaluated are discussed in detail on pages 3-27 to 3-47 of the Risk Assessment (appendix A).
- 4 Your preference for alternative modified D was included in the content analysis of all comments received. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance. IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

6

See our response to comments in Letter No. 23, Comment No. 2 regarding employment. We did not disclose any data which would support increased returns of \$40 per acre for manual treatments. In fact, the limited data we supplied on pages IV-127 through IV-130 of the Draft EIS suggest a figure much lower than \$40. Additionally, if effectiveness of treatment is considered the comparison between manual and herbicide treatments becomes even closer. There is also the chance that labor may be provided by a contractor outside the community or even the State. Measuring the direct input to local economies is much more difficult than supposed in your comment. This effect is one which was determined to be outside the scope of this EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: My impression of the scientific analysis is that the scientific analysis done by Newton County Wildlife Association and which I found attached to this form was more thoroughly considered less biased toward selfish ends and more scientific than that of your agency. I am sure you've had an opportunity to read those statements by Newton. Why? The answer to this should be self evident. The U.S. forestry service is interested in creating jobs and profit. The Newton County Wildlife Association and other environmental groups have formed for the purpose of protecting life and degradingly activities. Our exists for selfish relations the other exists for wholly unselfish ends. Comments on Alternatives:

2 I very much like the statements on management as given in the N.C.W.A. paper, above mentioned. Why not go with those verbatim? Because its less convenient, there's more labor, its more expensive, its less profitable. People and dirt aren't like that. We all want to take the easy way, the way we think is why? Next for US and right now! Thank God we were freed by natural, universal law back intranslates by forces and effects outside of what we may personally want. Namely, in this case the power of organization and public opinion. Other, I'm glad the worm turns. Ten years or so ago the Forest Service was an arrogant gringly. Today there's an air of humility and earnest, open, willingness. Let us hope the trend continues until all government exists to serve the people instead of subservient people.

3 Why? I don't see any alternatives to the proposals made by the Wildlife Association. Adopt them because they are right whether they fulfill your immediate goals or not. The end we all want is a bright future for our planet. When we subordinate exploitation for a higher moral right we all come out winners. The answer is listen to Newton County Wildlife Association leaders. If you don't like being preached at, change your thinking and come, on over to the winning side. Be a real American!

4 Name: First MI Last (Organization)
Street City State Zip Code

Frank Elam SEI international
HCR 70 Box 488
Jasper AR 72641

5

Tear at perforation

Response to Comments in Letter No. 784

From: Frank Elam

Comment No. Response

1 No attachments were received with your letter, but we would be pleased to review any analysis which would contribute to a better understanding of potential environmental effects.

2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only a supplement to this literature search.

3 The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.

4 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-38-39 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

5 We agree that the Forest Service's public image is an important factor in our future. During the process, many of the public issues were raised and addressed in the EIS and resulted in considerable new emphasis and direction in carrying out vegetation management activities. By following the mitigation measures listed in chapter II of the Final EIS, it is our objective to promote a positive and responsible image.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 Support Ark For Assn position supporting Alternative "A"

2 Why? For maximum vegetation control within legal limits.

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Philip E. Barnes Sr. AFA

City: Rt 3, Bx 7

State: Ham Bk Arkansas

Zip Code: 71646

Tear at perforation

Response to Comments in Letter No. 785

From: Phillip E. Barnes

Comment No.

Response

- 1 Your preference for alternative H was included in the content analysis of all comments received.
2 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Timber production is an important part of the objectives of management, but is not the only purpose for national forests.

OCT. 29, 1989

PLEASE FOLLOW WHAT APPEARS TO BE INDICATED BY YOUR STUDIES (!) (?) FOR THE DECS VEGETATION MANAGEMENT - COACHITA MOUNTAINS SUMMARY AND USE SAFE NATURAL MANUAL (AND CHEAPER) METHODS FOR THE CONTROL (IF NECESSARY) OF ALL VEGETATION AND ALL INSECT (OR ANIMAL) PESTS.

PLEASE - NO MORE CHEMICAL POISONS ON OUR LAND OR IN OUR AIR AND WATER THAT MAY JUST POSSIBLY CAUSE OUR GRAND CHILDREN SOME PROBLEMS.

SOME ONE ONCE SAID "IF IT AIN'T BROKE, DEN'T FIX IT."

Lida A. Griner
COLLEGE TEACHER AND DIETETIC CANDIDATE
PRIARWOOD ACKES
HARRISON, AR 72601

Response to Comments in Letter No. ZBZ

From: Lida A. Griner

Comment No.

Response

- 1 Our study shows fairly clearly on pages IV-25 through IV-29 that manual methods are least safe. Additionally, in section C and L of chapter IV we discuss effectiveness of treatments and make the point that manual methods can be very expensive when frequent retreatments are needed.
 - 2 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk in long term mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.
- Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

OCT. 29, 1991

Comments: True scientific analysis is not about "zero evaluation". It does not end with the answer to a problem or determination of goals but must include side effects that may be caused by the indicated or suggested results of the analysis.

Why: We used DDT until recently contrary to the recommendation of the scientist who developed it. The results are well known. We are suffering because of that use of that poison (not misuse) as our children will also - possibly forever.

Alternatives: There is no alternative to safe such as to merely unvented ventilation or to unvented animals or insect pests. Zero risk is the only answer because we cannot (possibly) foresee the possible damage in the future or even in our some seemingly safe genes to day.

Final comment: Having spent more than 30 years in the scientific study of water in nature, primarily ground water, some of which was for U.S.F.S. I can safely and accurately predict that any use of any poison in natural will eventually have a detrimental effect on our well water supply. We are rapidly running out of space to bury our garbage, and nuclear wastes. We must not use the use of herbicides and pesticides in our forests to further complicate these current water-damning practices.

*Diphacinone v. Retail Herbicide
See also AR 726-1
JASPER, AR 726-1*

Response to Comments in Letter No. 788

From: J. H. Gringer

Comment No.	Response
-------------	----------

1 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 See our response to comment 1 in letter 787.

Our environment is not risk free. Daily activities expose all of us to risks of many sorts. Recognizing that the element of risk was always present we sought standards by which we could determine a threshold or a level of risk which was acceptable. All of the values (thresholds) we used are well-established in the scientific community, and for the most part, are used by EPA in the registration process (eg., one in one million incidence of cancer). Where we discuss these values we cite the source; see the Draft EIS pages IV-7, IV-8, IV-11, IV-12, IV-21, IV-23, IV-66, and appendix A sections 5 and 7.

3 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Vegetation Management - Oak/Oak/Asch. in No. West.

Why?

Comments on Alternatives:

I suggest the alternative "H" as promoting maximum timber production. It will provide more long-term cost effective methods to Why? Maximizing fire production from the National Forest.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Michael H. Burk

Name: First MI Last (Organization)

519 W 9th St

Street

Bernsville, AR 72427

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 789

From: Michael H. Burk

Comment No.

Response

1 Your preference for alternative H was included in the content analysis of all comments received.

Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Timber production is an important part of the objectives of management, but is not the only purpose for national forests.

Tear at perforation

RESPONSE FORM

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1 Comments on Scientific Analysis: - Thorough and well documented. The effects of the various proposed treatments on animals, plants, people, wildlife, mineral, soil and water were well presented and thoroughly documented for each alternative. The use of herbicides, their toxicity and the effects on people and the forest environment were well documented. The use of legislative management methods were fully

2 Comments on Alternatives: Alternative F appears to be the best alternative for the 3 lands. I have some concern about any single alternative being suited to all 3 forests. For example, intense mechanical site prep on the St. Francis (Chopping, logging) would be a disaster on the high eroded ridge. Overall, I believe you did a good job.

3 Why? Other: Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
Robin D. Shaddox
2512 W. 2nd Place
Street
Russellville AR 72801
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 790

From: Robin D. Shaddox

Comment No. Response

- 1 The Interdisciplinary Team is pleased you consider the analysis thorough and well documented.
2 Your preference for alternative F was included in the content analysis of all comments received.
3 This is an umbrella or programmatic document. Each forest has or is currently completing a Forest Land and Resource Management Plan. This EIS and the Forests' land management plans will be used when preparing site-specific analyses as required in mitigation number 1 on Draft EIS page II-38. They will guide the process when working on specific projects. Please see implementation section, pages I-8 and I-10, of the Draft EIS. In the case of mechanical methods, we only proposed low intensity tools in the preferred alternative in chapter II of the Draft EIS.

RESPONSE FORM

Tear at perforation

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1
Comments on Scientific Analysis: I believe the evidence suggests that more study needs to be performed on risks that herbicides pose to humans and wildlife. What results from long term, low-level exposure to such chemicals; for most chemicals NO ONE WHY? KNOWS. TO CONTINUE TO USE HERBICIDES, WITHOUT FULLY KNOWING THE LONG TERM EFFECTS OF SUCH IS IRRESPONSIBLE AND PONENTIALLY LETHAL. THE RISK SHOULD NOT BE TAKEN WHILE THERE ARE VIABLE ALTERNATIVES.

2
Comments on Alternatives: I SUPPORT THE NEWA IN THEIR MOVE TO MODIFY ALTERNATIVE D. AN INTEGRATED PEST MANAGEMENT APPROACH, USED WITH OTHER MANUAL MEANS, ALONG WITH LOW INTENSITY BURNING CAN ACCOMPLISH THE GOALS SET FORTH BY THE USFS. THIS CAN BE ACCOMPLISHED WHY? BY REDUCING THE TOTAL ACRES/PER YEAR UNDER ~~THE~~ TREATMENT. THE RISK OF USING HERBICIDES IS JUST TO BEAT. SURE WITH PROPER TRAINING AND OTH: CONTROL, HERBICIDES ARE POSSIBLY USEFUL. IS THE USFS GOING TO TAKE RESPONSIBILITY FOR A MAJOR WHY? ACCIDENT. OR FOR IRREPAIRABLE DAMAGE TO OUR NATIONAL FOREST? I BELIEVE THEY SHOULD!

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

EUGENE JUDSON KNEILVEAN
Name: First MI Last (Organization)
621 E NORMAN
Street
SHEPHERD MD 65807
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 791

From: Eugene Judson Kneilvean

Comment No.

Response

- 1
None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.
- Risk Assessment has been used to project risk to humans and wildlife where available data was missing or unavailable. This is a scientifically acceptable process which conforms to CEQ Regulations, 40 CFR 1502.22. The analysis consistently used conservative assumptions that deliberately overestimated potential adverse effects of herbicides to account for gaps in our data.
- 2
Your preference for alternative modified D was included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

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RESPONSE FORM

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Comments on Scientific Analysis:

1 The State of Texas and several environmental groups question your scientific analyses. Then I certainly do, too. Officials seem content to tell us these chemicals are safe, but have always Why? been proven wrong, as in DDT, 2,4,5-T, 2,4-D, and The disaster with dioxin at Times Beach, Missouri. To insist on pesticide use when there are reasonable alternatives is irresponsible and dangerous. Comments on Alternatives: Alternative D is my choice since it emphasizes manual means of control.

2 1. Depressed area needs the jobs. Money stays home - not going to chemical companies.
3 Why? 2. herbicides pollute our water sources
3. Monitoring application is inadequate and expensive
4 4. Game animals who eat treated forage concentrate
5 Other: The poisons in bats and humans. Unsafe to eat and you poison the food.
6. Hunting, fishing, tourism stopping, hiking, etc.
Why? will suffer if we have a poisoned forest.
We do not need these poisons in our forests.

Wake up - get smart - use people and biological means
Chemicals have implications and consequences.

To return, this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Any school child understands that ecology is a whole complex pattern and herbicides disrupt the pattern.
Name: First MI Last (Organization) DAVID A. HAENN NEWA, SERRA
Street City State Zip Code
401 Indalee, A.R. 72655
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 792

From: David A. Haenn

Response

Comment No.

1 Risk Assessment has been used to project risk to humans and wildlife where available data was missing or unavailable. This is a scientifically acceptable process which conforms to CEQ Regulations, 40 CFR 1502.22. The analysis consistently used conservative assumptions that deliberately overestimated potential adverse effects of herbicides to account for gaps in our data.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only a supplement to this literature search.

2 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

3 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

4 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

5 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

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RESPONSE FORM

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1 **Comments on Scientific Analysis:** Insufficient data base for use of herbicides. The benefits (convenience) do not justify the risks (contamination). I am most concerned about degradation of the water quality.

2 Why? Accidents happen and there is no way to clean them up. Also, using manual weeding and controlled burning seem more cost-efficient. The former would provide badly needed jobs.

3 **Comments on Alternatives:**
Option D sounds best.

4 Why? No long-term damage
no unknown risks; best for the local economy.

5 **Other:**
Option D sounds like the only sensible alternative; controlled burning would be my second choice.

No poison; no lasting damage
we own land adjacent to the Oak Knob Forest in Winelov.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Renate Rosenthal PhD
 Title: Professor of Environmental Management
 Institution: University of Mississippi
 Address: 66 N. Pauline, 6th Floor
 City: Memphis, TN State: TN Zip Code: 38105

Tear at perforation

Response to Comments in Letter No. 793

From: Renate Rosenthal

Comment No.

Response

1 Risk Assessment has been used to project risk to humans and wildlife where available data was missing or unavailable. This is a scientifically acceptable process which conforms to CEQ Regulations, 40 CFR 1502.22. The analysis consistently used conservative assumptions that deliberately overestimated potential adverse effects of herbicides to account for gaps in our data.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

2 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

3 Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on pages II-38 through II-59 are designed to cause the least environmental impact.

4 Your preference for alternative D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

See our response to comments in Letter No. 23, Comment No. 2 regarding employment. Measuring the direct input to local economies is much more difficult than supposed in your comment. This effect is one which was determined to be outside the scope of this EIS.

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RESPONSE FORM

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1
Comments on Scientific Analysis: Premature & Shallow: Without sustained baseline data gathered prospectively at a range of sample sites, there is NO safe way to dismiss possible long-term contamination. Note that if/why? such contamination occurs from herbicides, there will be no viable short-term "cure". As a working research scientist I urge + caution you to consider the "impossible" tanker wreck off the coast of Alaska. Comments on Alternatives: My wife and I own 40 AC that ABUT Ozark Natl Forest (near Winsor, AR). We think option D is soundest: it does the same JOB AT LESS COST with no contamination risk.

Why? NO HERBICIDES. Money remains in local economy. WDS T CASE is short-term damage (quickly repaired) to some stands of timber on discrete trees.

2
Other: Alternative B a lower amounts of poisonous chemicals. Less danger of technological error. Remember that profits must be assessed relative to costs or dangers. In our professional judgment the lowest benefit-to-risk ratio occurs in option D with option B a distant second. Apart from fire risk, (Additional sheets as necessary)

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We (collectively) would make option A our second choice.

Name: First MI Last (Organization)

DR. TED L. ROSENTHAL

2107 HALLWOOD DRIVE

MEMPHIS TN 38107

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 794

From: Dr. Ted L. Rosenthal

Comment No.

Response

1 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

2 Your preference for alternative D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

3 Comment noted. We evaluated risks from all methods and have displayed our findings in part B of chapter IV. Your comment assumes that there are no risks associated with methods other than herbicides. Our analysis shows a different result.

Tear at perforation

RESPONSE FORM

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1 Comments on Scientific Analysis: VMDEIS contains extensive data gaps in the assessment of human and wildlife risks of herbicide use. Why time was spent on animal studies had been done to determine all possible effects. Herbicide use exposes those more sensitive to possible seriously toxic reactions. VMDEIS did not fully analyze risks to ground water in areas of fractured topography. VMDEIS does not adequately address adverse effects of burning herbicide treated vegetation. There are no studies of the synergistic and cumulative effects of herbicide formulations of herbicide. Bioaccumulation of herbicides is not studied for a sufficiently long time period.

2 Comments on Alternatives:
Herbicide use and high intensity fire and mechanical methods are unacceptable to me.

3 Why? Herbicide use poses an unnecessary risk to the public and to workers (guilt on workers in the Buffalo District exceeded the project's unit case scenario) costs more than manual methods, and give money to chemical companies which would otherwise stay in the local economy.

4 Intense fire and mechanical methods already affect soil, water, and wildlife.

5 Other:
I support alternative D, but with a reduced number of total acres treated and a reduced intensity of treatment, as stated in alternative B.

6 Why? I do not feel the risks are acceptable for herbicide use when other methods seem to hold some advantages over the method. Public forest should be treated to achieve only minimum objectives, without emphasis on extensive commercial timber exploitation. *Charbyon*

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name First MI Last (Organization)
Chris L. Lord

Street #12
2900 E. Robison, #12

City State Zip Code
Springdale AR 72764

Tear at perforation

Response to Comments in Letter No. 795

From: Chris L. Lord

Comment No.

Response

- 1 Knowledge in any scientific field is far from complete, but in every science we use patterns or indicators to allow us to implement the science while we pursue more complete information. The EIS discloses where information is incomplete as required by the Council on Environmental Quality Regulations 40 CFR 1502.22. Further, it contains complete documentation of the Risk Assessment in appendix A. The Risk Assessment is the process or model which was used to logically predict effects by accounting for data gaps. Thus, data gaps were not ignored: in fact, they dramatically influenced the magnitude of predicted effects due to the extreme conservative approach used.
- 2 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking we identified the lack of data and explained how the Risk Assessment dealt with the gap.
- 3 Margins of safety were calculated using the 100-fold standard. This means that species differences result in a factor of 10 and an additional factor of 10 is applied for differences within the same species. Though this doesn't fully account for possible extremely sensitive individuals we considered potential public exposure. On table IV-1 we show that for the applications proposed in the preferred alternative the margin of safety for the public in every case exceeds 1,000, or another factor of 10. Thus, it is highly unlikely that an extremely sensitive individual would suffer severe reactions as you suggest.
- 4 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 5 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.
- 6 Please see table 3-8 on page 3-49 and the discussion on 3-48 of appendix A. Inerts in the products proposed for use in Region 8 are not "...secret ingredients..." Enough information is available through that table to project (model) potential synergisms. While possible, no synergisms were projected using available data.

- 7 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.
- 8 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 9 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 10 (page II-55 of the Draft EIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.
- 10 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, ■■■ is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 11 Your preference for alternative modified D was included in the content analysis of all comments received.
- As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 12 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, ■■ supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act. Just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215, ■■ amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

RESPONSE FORM

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Comments on Scientific Analysis:

I am not a chemist & do not understand all the abbreviations or formulas. However I do hope the land that we are building clearly with some the data provided is relevant but to common understanding. It's difficult to put the oil together.

Comments on Alternatives:

I do believe the descriptions of Alternatives was extensive and more easily understood. Burning off the mechanical seem to bring (or prevent) the problem and as for Herbicides - chemical we don't is definitely not acceptable due to the herbicide and destruction to man, animals and forest.

Other:

I am glad to have been informed of this situation and as I stated earlier I am not a chemist, but a concerned individual. By taking a few moments maybe we can all benefit & understand better the facts we live in. (No herbicides whatsoever) (No)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Montie C. Young (Last, First, Middle Initial, Organization)
Street: 1144 Bay Side Ln #4
City: W. Monroe LA 71291
State: Zip Code

Tear at perforation

Response to Comments in Letter No. 796

From: Montie C. Young

Comment No.

Response

1 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

2 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

RESPONSE FORM

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Tear at perforation

1 Comments on Scientific Analysis: I support Alternative B which specifies the use of less herbicides. I have been in the reforestation industry for ten years and have seen a great number of uses & abuses of herbicides and subsequent redefining of their legal usage. In a word, herbicide usage on large acreages is an experiment. While the private pulp & Why? timber industry may feel justified in running a giant experiment on their lands, I feel strongly that it is not the right of the USFS to do the same on our public lands because maximizing production of commodities is far from the only mandate that you have been given by us, the public. Your claim that herbicides are safer may apply to human workers but not necessarily to the remaining biosphere. Having seen workers in comments on Alternatives my own company drenched in Velpar and complaining of headaches from the petroleum carrier does not make your preferred herbicides synonymous with "safe" in my mind.

2 Alternative B seems to offer the best combination of treatments. Use herbicides only as a last option, keep piling to a very bare minimum, and hire local people to manually thin & release. Mechanical site prep should be finely tuned to potential soil disturbance. Careless destruction of soil fertility is so widespread all throughout the private timber sector that everywhere you look you can see examples of how not to manage public lands. Our forests are not to be turned into plantations for timber & pulp corporations!

3 On a related topic, I also prefer to see less acres treated annually. From the Land & Resource Management Plan it seems obvious that the USFS Other's much too optimistic about future growth potential; ie. the Mark Twain claims a 100% growth increase within their planning horizon. Yet, this decade has produced a slowing of growth due to weather extremes. Does your large increase in timber harvesting take into account cyclical droughts and more importantly, the longterm decline of the Why? forests due to the potential greenhouse effect.

4 The overall plan of the USFS to convert older stands to younger stands so that there are roughly equal acres of all ages under 80 years is perhaps desirable for ease of management but I believe that very few citizens want this sort of reduction in average age/size of their public forests, especially when clearcutting is the primary method to accomplish the conversion. It looks very much like additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
George E. MUMMER
Street City State Zip Code
Steel Mrs. New Mo. 65548

Tear at perforation

Response to Comments in Letter No. 797

From: George E. Mumper

Response

Comment No.

1 Your preference for alternative B was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, and BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

3 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

4 National forests are managed to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

The Mark Twain National Forest is not within the study area covered by this EIS.

page two

liquidation sale to benefit the timber interests, which is a growing perception here in the Ozarks. Locals here are strongly opposed to

your management by herbicides & clearcuts. Most view the alleged benefits to wildlife as a smokescreen for more clearcutting. After all, why does a local deer population need numerous 20-40 acre clearcuts in order to browse. Burning & clearcutting (virtually) according to our history books caused an alltime low population of deer and turkey in the first half of the century. My locale was brushy, cutover woods for miles around according to the oldtimers, and there were no deer or turkey. So how do you justify say 20% of the forest in brushy woods (261,700 acres of the Mark Twain kept below 20 years old)? ~~What is the value of the forest reduced to pole-sized and smaller trees. That already exists on private lands all over the Ozarks. I can drive from Shannon County, Missouri to south of the Buffalo Nat'l Scenic Riverway, about two hundred miles, and not see even one forest or patch of woods that any where approaches mature or old growth in aspect! Please think about that when you put timber production way ahead of other values. Justifying increase logging by claiming enhanced wildlife habitat is something that runs counter to the results of some studies. The creation of much smaller openings by group selection and in some cases small 1-5 acre clearcuts (especially for salvage purposes) would meet broader management objectives and public needs than your near total reliance upon clearcutting.~~

One last point concerning making ~~available~~ all the wood products easily available from the national forests- the public timber is put into direct competition with the timber I might want to sell of my land. The price for my trees will continue to remain depressed as long as the USFS continues, and in fact increases, the liquidation of older stands on the public forests. In an era when most state & federal agencies are trying to encourage landowners to grow more timber, you are maintaining and even increasing the disincentives to invest in this worthwhile commodity production by keeping the supply too high.

Thank you for taking the time to hear my views.

Sincerely, *George E. Hough*

5

The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).

DEIS
Vegetative Management
RESPONSE FORM Ozark/Quachita NF

Tear at perforation

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Comments on Scientific Analysis:

Why?

.....

Comments on Alternatives:

Would prefer Alternative H.

Why?

Other:

Why?

(Use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Frank E. Taylor
First MI Lds (Organization)
55B Dunmore land Dr
Street Shreveport, LA 71106
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 798

From: Frank E. Taylor

Comment No.

Response

- 1 Your preference for alternative H has been included in the content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 **Comments on Scientific Analysis:** I have not read the entire draft so cannot comment on it's analysis. I was concerned that all the active management alternatives except alternative D used herbicides as part of the management technique.
- 2 Why? While herbicide application was seen as an inexpensive method to control growth on the surface I believe it is totally inappropriate and has numerous long-term effects calculated in your draft statement. Other more labor intensive methods retain far more resources/money in the local economy and do not take the long-term toll that poisonous applications do.
- 3 **Comments on Alternatives:** From my understanding, herbicide application to kill off shade intolerant "scrub" tree varieties is necessitated with large scale clearcutting. While I am not totally against small (under 40 acre) clear cutting with primary focus being selective cutting, I would not clearcutting introduced to the level that herbicide application was needed. I tend toward favoring alternative D in your summary for this reason.
- 4 Why? I have spent large amounts of time in the Ouachita region & just from my visual impression we have a very fractured rock surface & substrate. I believe that introducing poisons into the vegetation management plan does & will continue to seep into ground water and further pollute the ground water. It would be irresponsible to use herbicides with such a geological condition existing.
- 5 Other: I am also concerned about what rare or endangered species might be adversely effected unless a careful investigation is made before any severe management techniques are employed. In general alternative A should be the approach that is sought as when conflict of interest arise. While we must manage our natural resources we should strive to impact the environment as little as possible to achieve our joint goal of responsible stewardship.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: David P. Druding
 First David Mi P. Last Druding (Organization)
 Street Fayetteville Ar. 72701
 City Fayetteville State Ar. Zip Code 72701

Tear at perforation

Response to Comments in Letter No. 799

From: David P. Druding

Response

Comment No.

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk long term mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
- 2 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.
- 3 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 4 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.
- 5 While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.B).
- 6 Your preference for alternative D was included in the content analysis of all comments received.
- 7 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

6

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

The worst case situation evaluated -- percolation/leaching through Astatula sand -- is a significantly worse case than that presented by fractured sedimentary rock overlain by a layer of soil containing organic matter. Karst areas are protected from application of herbicide by mitigations presented in chapter II section #.2.c of both the Draft and Final EIS.

7

Any time vegetation management is proposed for threatened, endangered, proposed, or sensitive species habitat a no action option is considered, as required by mitigation measure 1 on pages II-38 and II-39 of the Draft EIS. These proposals are also subject to mitigation measure 2 on pages II-39 and II-40 of the Draft EIS to ensure compliance with the Endangered Species Act and our policies. Your comment assumes that all threatened, endangered, proposed, and sensitive species require undisturbed environments to survive or that needed disturbances will occur naturally. It also assumes sufficient habitat already exists. Both assumptions are incorrect and could possibly lead to extirpation of some species.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:



Why?

1 Comments on Alternatives: I WOULD LIKE TO SEE ALTERNATIVE D USED - WITH VERY LITTLE TO NO PRESCRIBED FIRES BEING USED. AND KEEPING THE DOTAL # OF ADRES TO A MINIMUM. ALSO KEEPING MANUAL MANAGEMENT TO AS LITTLE AS POSSIBLE.

2 Why? I KNOW WE HAVE TO HAVE SOME VEGETATION MANAGEMENT. I DON'T LIKE THE USE OF HERBICIDES - WHERE PEOPLE ARE IN CHARGE THERE IS TOO GREAT OF A RISK OF ERROR. IN MY OPINION CHEMICALS ARE TOO DANGEROUS. I WOULD BE SAFER FOR THE ANIMALS AS FOR PRESCRIBED FIRES - WE ARE BEING TOLD TO USE WOOD STOVES ONLY. CATALYTIC CONVERTERS TO HELP THE POLLUTION PROBLEM. PRESCRIBED FIRES HAVE GOT TO PUT THOUSANDS OF TIMES MORE POLLUTION INTO THE ENVIRONMENT. YOU SAY CARE IS USED TO PROTECT THE ANIMALS, BUT IS IT ENOUGH? HOW MANY ANIMALS ARE DESTROYED? I WOULD PREFER TO ELIMINATE THE USE OF CHEMICALS & FIRES.

3 AS FOR PRESCRIBED FIRES - WE ARE BEING TOLD TO USE WOOD STOVES ONLY. CATALYTIC CONVERTERS TO HELP THE POLLUTION PROBLEM. PRESCRIBED FIRES HAVE GOT TO PUT THOUSANDS OF TIMES MORE POLLUTION INTO THE ENVIRONMENT. YOU SAY CARE IS USED TO PROTECT THE ANIMALS, BUT IS IT ENOUGH? HOW MANY ANIMALS ARE DESTROYED? I WOULD PREFER TO ELIMINATE THE USE OF CHEMICALS & FIRES.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)
SHARON D. BROWN
Street BOX 117
City State Zip Code
PARKS, AR 72950

Tear at perforation

Response to Comments in Letter No. 800

From: Sharon D. Brown

Comment No.

Response

1 Your preference for alternative modified D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

2 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced. We require.

3 A site-specific burning plan is required for each prescribed fire (Draft EIS pages II-46 and II-47). Each such plan sets constraints on weather and fuel conditions and for resource coordination so that the prescribed fire will be safe and effective (Draft EIS page IV-123) and pose the least possible risk to the environment. Given such planning, and the fact that the preferred alternative does not allow severe, high-intensity prescribed fires (Draft EIS pages II-11 and II-46 to II-51), mortality of wildlife and plant regrowth is minimal (Draft EIS pages IV-38 to IV-40 and IV-75).

Each prescribed fire has temporary effects on local and general air quality that can be controlled by smoke management practices as to the timing and nature of each burn (Draft EIS pages II-50 and IV-119 to 122). Prescribed fires on national forests account for less than 2 percent of the total forest fire smoke produced in the Ozark/Ouachita Mountains, so their contributions to regional air pollution and the "greenhouse effect" are negligible (Draft EIS page IV-122).

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 **Comments on Scientific Analysis:** I did not see any information presented testing concerning ground water contamination as a result of any herbicide applications. Since herbicides are included in five of your alternatives I believe this is a major oversight. Why? The limestone and sandstone substrata in both the Cuvahle and Chapack Hill Forest are severely fractured and would not be suitable environmentally in these regions.
- 2 **Comments on Alternatives:** For this reason alternative L would be the only viable option other than option A which would be outside the scope of a serious choice for the NTS to choose. Why? Pesticide residue continues to increase in our ground water until we eliminate its use in suitable environments such as this national forest. Other: In addition, the production of these herbicides pose environmental problems we must begin to address. Herbicides have no place in a comprehensive, sustainable Why? vegetation management.

Thank You

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Annex L. Littell
 First Ann MI L Last Littell (Organization)
 Street 411 W. South
 City Fayetteville, Ar. State 72701 Zip Code

Tear at perforation

Response to Comments in Letter No. 801

From: Annex L. Littell

Comment No.

Response

- 1 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species. The worst case situation evaluated -- percolation/leaching through an Astatula sand -- is a significantly worse case than that presented by fractured sedimentary rock overlain by a layer of soil containing organic matter. Karst areas are protected from application of herbicide by mitigations presented in chapter II section #.2.c of both the Draft and Final EIS.
- 2 Your preference for alternative D was included in the content analysis of all comments received. As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 3 Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on pages II-38 through II-59 are designed to cause the least environmental impact.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1 Extreme length DISCOURAGES (intentional?) thorough & careful reading by public. @ You make unjustified assumptions about acceptable risks.
- 2 HERBICIDES SHOULD NOT BE USED ON PUBLIC LANDS BECAUSE AN UNACCEPTABLE RISK TO ME THROUGH POSSIBLE GROUND WATER CONTAMINATION; DESTROYS WILDLIFE; RESULTS IN MORE EXPENSIVE MANAGEMENT THAN NECESSARY; BLD
- 3 Comments on Alternatives: YOU HAVE FAIL TO ASSESS FINAL RESPONSIBILITIES
- 4 The alternative "No action" is needlessly insulting to anyone's intelligence. ALTERNATIVE D PLEASE!!
- 5 Why? It provides adequate management using methods other than herbicides, and does not disturb the environment long term; there are many other reasons I'm sure you'll hear about.
- 6 Other: That the Forest Service prefers an alternative that includes the use of herbicides is shocking and indicates we have somehow ended up with the "fox watching the hen house". This situation certainly warrants increased vigilance on the part of all of us & I have requested additional sheets as necessary more.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Patricia Palmeri
 Name: First MI Last (Organization)
 2645 Kentucky Dr. #1
 State Zip Code
 Fayetteville, Ar. 72703

Tear at perforation

Response to Comments in Letter No. 802

From: Anne L. Litte

Comment No.

Response

- 1 The Draft EIS is prepared to conform to the requirements of the National Environmental Policy Act. Certain decisions about where to put information were made within the framework of the CEQ Regulations. Thus chapter I presents the process; chapter II presents the alternatives; summary information about the tools proposed for use, and conclusions from the analysis (mitigations necessary to cause an acceptable degree of risk), and a (conclusion again) comparison of environmental effects; chapter III presents environmental background; and, chapter IV presents the analysis by environmental element potentially affected and a summary of impacts by alternative.
- 2 We are unaware of any arbitrary action in the EIS and would need more specifics in order to respond to this comment. Generally though, at any point where data were lacking we identified the lack of data and explained how the Risk Assessment dealt with the gap.
- 3 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
- 4 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.
- 5 While the "No Action" alternative may be considered by some to be useless, it is required by the Council on Environmental Quality Regulations, 40 CFR 1502.14(d). It allows us to evaluate effects which might otherwise go unnoticed, and it provides a baseline for comparison of alternatives. Additionally, there are some who would make "no action" their preference.

The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis.

An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only ■■■ a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used ■■■ an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

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RESPONSE FORM

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Comments on Scientific Analysis:

I believe it was inadequate

Why? There are extensive "data gaps" in the human risk and wildlife risk assessments. I find the "acceptable risk" unacceptable.

Comments on Alternatives: I prefer Alternatives A and D.

Why? Alt. A + D provide for no herbicide use.

Other: I am opposed to the USFS and the timber companies turning our National Forests into pine plantations. I am opposed to clear-cutting.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Steven W. Smith (First Last, Organization)
Street: 505 N. Valentine
City: Little Rock AR State: AR Zip Code: 72205

Tear at perforation

Response to Comments in Letter No. 803

From: Steven H. Smith

Response

Comment No.

- 1 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.
2 Your comment that risks in the vegetation management programs proposed in the Draft EIS are unacceptably high was included in the content analysis of all comments received.
3 Your preference for alternative A or D was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
4 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.
5 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though
 However you decide to respond, please help us by making specific and meaningful comments.
 Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 **Comments** **Scientific Analysis:** *Insufficient data to accept any herbicide use - risk of long term damage can only be assessed in another 50 years - no use of herbicides until then is acceptable.*
Why? Longterm studies have not been done. Burden of proof is on herbicide users - safety has been assumed not proven, and can't be proven until end of longterm (50yr) studies.
- 2 **Comments on Alternatives:** *Option D is only positive safe choice, no unknown dangers, money & work for the local economy. Will allow maximum flexibility in management for each area.*
Why? Will develop local area labor resources. Stimulate local economy. Safe.
- 3 **Other:** *Option A next best.*
Why? No use of dangerous chemicals.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside an drop in the mail (no postage necessary).

Dwayne Knox
 Name: First HCR MI AR Last (Organization) Box 331
 Street Deer State AR Zip Code 72628
 City

Tear at perforation

Response to Comments in Letter No. B04

From: DWAYNE KNOX

Comment No.

Response

- 1 None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-52 to II-59 in the Draft EIS. As stated in mitigation measure number 1 on page II-38 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.
 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.
- 2 Your preference for alternative D was included in the content analysis of all comments received.
 As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 3 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Thomas & Elizabeth Noland
1111 N. Washington
Arkansas, OK 75401

11 6 89

Mr. Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd. N.W.
Atlanta, GA 30367

Dear Mr. McCorquodale:

I have examined the Vegetation Management Documents for the Ozark Ouachita National Forests and would like to comment. My primary area of analysis will be the effects of vegetation management on plant species diversity, although I will make a few general comments also.

1 - I strongly disagree with the statement that impacts on sensitive, threatened, or endangered species should be "mitigated." Mitigation implies compensated for or in some way lessened. All possible impacts on sensitive, threatened, or endangered species should be avoided or prevented whenever humanly possible.

2 - I would like to propose that special protection from any vegetation management practices be extended to all relatively sensitive ecosystems needs to be implemented, including, but not limited to, Novaculite glades, seeps, and bogs.

3 - In Appendix D the document states that "When adequate population inventory is unavailable, it will be collected when the affected site has high potential for occupancy by a threatened, endangered, proposed, or sensitive species." Although a decision-making algorithm is presented, the on-the-ground criteria used for determining how a site will be evaluated for such potential occupancy of such species is not. The process should be a very conservative one since most sites have never been surveyed for such species. Also, in light of Vernon Bates' discovery of 3 new plant species in the Ouachita National Forest, two of which are probably endemic to the Ouachitas determining exactly what this critical decision-making criteria will be, is obviously of great importance. I would like to propose that the site should be surveyed even if the potential is moderate (1 chance in 3 or better) for such species to be present on the site, just to be safe considering the lack of general survey knowledge.

4 - Appendix D also states that "There are no threatened, endangered, and proposed plants in the Ozark and Ouachita National Forests." The lack of comprehensive plant survey data for the Ouachita National Forest makes such a statement, without qualification, extremely questionable. Of course no such plants exist if you don't know about them. One plant, *Geocarpon minimum*, is federally listed and exists in 3 sites in Arkansas, although none are in the National Forests, there could be sites within the National Forests which have yet to be discovered. Another rare species, dwarf pipewort (*Eriocaulon kornickianum*), is found in the Ozark National Forest and is being considered by the Fish and Wildlife Service for Federal Listing. My point here is that because of the high potential for damage to such species, all vegetation management activity and especially herbicide usage should be banned from any site even remotely suspected of containing

Response to Comments in Letter No. B05

From: Dr. Thomas L. Noland

Comment No.

Response

- 1 Mitigation measure number 2 on pages II-39 and II-40 of the Draft EIS is consistent with current legal mandates for protection of threatened, endangered, proposed, and sensitive species. Though many definitions for mitigate may exist, we have used the definition found in the Council on Environmental Quality Regulations, 40 CFR 1508.20. We do not believe deviation from that definition is necessary.
- 2 We are not aware of any existing or proposed classification scheme which includes "relatively sensitive." This is not an appropriate forum to establish such a classification. However, mitigation measures such as 9, 10, and 11 on pages II-48 and II-49, number 8 on page II-52, and number 24 on page II-57 of the Draft EIS are designed to protect areas such as wetlands, sinkholes, springs, and seeps.
- 3 We agree with your concern, but do not see any need to strengthen our language. Requirements for compliance with legislation and coordination with state and private agencies coupled with site specific analysis accomplish what you desire.
- 4 Listing species is a matter of policy and law. We have briefly described those processes, but you may contact the Forest Supervisor if you need clarification. We must work with official lists, not from lists of proposals from a number of sources. Our requirements for inventory and site specific analysis as mentioned above should address your concern.

Veg. Mang. Comment Letter, Thomas L. Noland 2

any sensitive or listed plant species, at least until relatively complete surveys of plant species have been completed in both forests.

- In my opinion, herbicide usage, especially that of nonspecific herbicides such as glyphosate, should be banned or extremely curtailed simply because it tends to reduce native plant species diversity. Especially when using machine and helicopter sprayers and even when relatively limited spot hand-spraying is employed, nontarget plant species are destroyed by herbicides thus reducing plant species diversity.

- I would like to propose that the EIS to plan techniques for increasing the numbers of forest interior plant species. The rapidly disappearing forest interior plant species have become a victim of forest fragmentation and even-age management techniques and are more susceptible to extinction than are early seral stage species (Mahler, 1983, the role of plant succession in the extinction of plant species. SIDA 10:191.)

- Riparian areas are often rich in plant species and thus should be protect by a "no vegetation management activity zone" of at least 200' on each side.

- Mechanical site preparation causes moderate to relatively severe soil and plant species impacts and thus should be avoided.

Therefore, I favor the least invasive and least toxic methods of forest management which in this plan is modified alternative D. I support only the use of low intensity basis fire and mechanical vegetation control methods with integrated pest management approach for controlling insect pests.

Thank you for this opportunity to comment. I hope this is helpful.

Sincerely,

Thomas L. Noland
Thomas L. Noland, PhD

plan

8 P.S. Separation of Vegetation Management from the Forest Management Plans makes both difficult to adequately assess. Just how Vegetation Management will be integrated into the Quachita National Forest is not clear to me. I do not like this method of planning.

5 As you suggest, potential for causing adverse effects on non-target species is greatest when herbicides are broadcast on an area, which occurs with some ground application methods as well as aerial. These potential adverse effects are limited by mitigations covering choice of herbicides; application rates, methods, and timing; and use of buffers (Draft EIS pages II-52 and II-59). In the Final EIS, selective treatment of herbicides has been increased to 90 percent.

6 We agree that threatened, endangered, proposed, and sensitive species may be sensitive to vegetation management. However, we feel that the effects of these species have been adequately evaluated and mitigated in chapter IV, section E, pages IV-81 to IV-84 of the Draft EIS; appendix F of the Draft EIS (Biological Evaluation of the Effects of the Preferred Alternative on Threatened, Endangered, Proposed, and Sensitive Species); and in mitigation measures 1 and 2 on pages II-38 and II-40 and in the other ones on pages II-40-59 that pertain to plants and wildlife in general. Also, in order to prevent unknown impacts on these species, regardless of the method or tool proposed for use, mitigation measure number 2 on page II-39-40 of the Draft EIS specifically states that when adequate population inventory information is unavailable, it will be collected when the affected site has a high potential for occupancy by threatened, endangered, proposed, or sensitive species. Figure D-1 of the Draft EIS traces the process required to insure adequate assessment of potential harmful effects. Additionally, although all Forest Service personnel are not trained as botanists or biologists capable of recognizing threatened, endangered, proposed, and sensitive species, they are trained to seek help from appropriate sources such as Forest Service specialists and State Heritage personnel; and on-the-ground plant identification training sessions are conducted through the Regional Botanist.

7 Your preference for alternative modified D has been included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

8

This EIS is used to make decisions on how the vegetation management program on Ozark/Ouachita national forests is conducted. The major decisions are: what methods and tools are allowed, what intensity and frequency of treatments are used, and what management requirements and mitigation measures are applied for the activities listed on pages I-1 and I-2 of the Draft EIS.

The Council on Environmental Quality Regulations contain provisions encouraging agencies to use a process called scoping, essentially meaning that agencies should precisely define the range of actions, alternatives, and impacts to be considered (40 CFR 1508.25). This process: allows for early identification of issues (40 CFR 1502.1(d)); reduces paperwork (40 CFR 1500.4(g)); and reduces delay (40 CFR 1500.5(b)).

We are not aware of any part of the regulations which prohibit separate environmental analyses of the same or similar proposals. In fact, the regulations specify a process called tiering which allows for subsequent analyses from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope (40 CFR 1508.28(a)).

We have clearly defined the scope of this EIS and have not included several issues which were discussed in Forest Land and Resource Management Plans. We are uncertain why you believe repeating those issues and associated analyses here, when they are already available in another document, would aid the decisionmaker in making a reasoned choice among alternatives.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: *Very well done*

Why?

2 Comments on Alternatives: *Increase use of prescribed fire. Mechanical methods, manual methods did, particularly biological methods. Use biological methods for rest of new vegetation.*

3 Why? *Use manual methods to increase local employment. Use increased grazing - explore the use of goats as well as cattle.*

Other: *Planting new trees in ordered rows (at least 4' wide level ground) would make for more mechanical methods*

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: *John E. Deane (Land owner)*
 First *John* MI *MI* Last *Deane* (Organization)
 Street *Box 121*
 City *PARIS, TX* State *TX* Zip Code *75460*

Tear at perforation

Response to Comments in Letter No. 806

From: John E. Dunn

Response

Comment No.

- 1 The Interdisciplinary Team is pleased you consider the analysis well done.
- 2 Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on pages II-38 through II-59 are designed to cause the least environmental impact. Without appropriate mitigation measures grazing can cause adverse impacts to vegetation, soil, and water resources. Three mitigation measures are required (d. Biological Method, page II-59 of the Draft EIS) are designed to protect these resources. Manual and mechanical methods are very much part of the program and a breakdown of projected acres treated by activity is found in the description of the preferred alternative, pages II-10-11 in the Draft EIS. Chapter I explains the relationship of tools for each activity. Also, please refer to management requirement numbers 1 and 3, pages II-38 and II-40 in the Draft EIS, which require site specific analysis and IPM for vegetation management. During this process the most appropriate tool choice is determined.
- 3 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

Why?

1 Other: Absolutely No Pesticides or herbicides in, on & around the trees, etc.

2 Why? NATURE will take care of herself.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Margaret Sue Skidmore - Earth First!
Name: First Last (Organization)
136 E. S. Plaza
Springfield, Mo. 65804
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 807

From: Margaret Sue Skidmore

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced.
2 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

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RESPONSE FORM

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Comments on Scientific Analysis:

1. The forestry profession and forest land managers know the size of the forest and the people who live in the forest. They know the people who live in the forest and the people who live in the forest. They know the people who live in the forest and the people who live in the forest.

2. Proper use of approved chemicals are used every day in growing food, paper, and other products. Why not use them in growing trees for lumber, paper, etc.?

3. Other than the Alternatives it would not permit the forest land manager to adjust his management process to meet local conditions.

Why? Growing trees from many more varieties to control tree class now. Crops - this is due to different tree species, many other species of vegetation, soil types, weather - length of time, etc.

Other: Many "immortal" groves are waiting the time to log - the DCS - Why not use these groves?

Why? Why not the local forester who is heard, and why bear travel to do a job, make decisions, why not rule the DCS. Foresters never farm.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Duane Wallace - Community Justice
City: Box 36
State: Ark. 72532
Zip Code: 72532

Tear at perforation

Response to Comments in Letter No. 808

From: Duane R. Wallace

Comment No. Response

1 Your preference for retaining all legal and environmentally sound tools for use in vegetation management has been included in our content analysis of all the comments received. Alternative H provides for analysis of the full range of treatments and their effects.

2 This is an umbrella or programmatic document. Each forest has or is currently completing a Forest Land and Resource Management Plan. This EIS and the Forests' land management plans will be used when preparing site-specific analyses as required in mitigation number 1 of Draft EIS page II-38. They will guide the process when working on specific projects. Please see implementation section, pages I-8 and I-10, of the Draft EIS.

3 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-38-39 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: It is my perception that there are huge data gaps in the assessment of the risks and the risks are unacceptable for the use of herbicides on public lands. Therefore I am opposed to any future use of herbicides on U.S.F.S. lands for vegetation management purposes.

Comments on Alternatives: Manual methods of vegetation management would result in preferred employment in an area of high unemployment at probably no more of a cost per acre than I thought the use of herbicides.

Other: Hereby I support the D.C. W.A. modified alternative D with reduced total acres of vegetation management the use of manual methods and fully competitive using manual methods with an integrated step management approach leaning toward alternative A as action

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: DAVID K. SWENSON
First MI Last (Organization)
City State Zip Code
DAVID K. SWENSON
120 E. ROCK ST.
FAY, AR. 72701

Tear at perforation

From: David K. Swenson

Comment No.

Response

- 1 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.
2 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.
3 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
4 Your preference for alternative modified D was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
5 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though however you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: I am against further herbicide use for vegetation management. I feel like the risks involved for our night the benefits. The best of water quality standards should remain strict. D50 & L50 are inadequate by themselves to determine risk. The effects are subtle, however they do have an impact on our water quality. Do not think studies have been carried out to protect the cumulative synergistic long term effects on humans.

2 I don't like all the data gaps stated on pg. 10-147, vol. 1 Comments on Alternatives: also research regarding the health products and metabolites for full protection of herbicides their most important.

3 I support alternative D.

4 Why? I don't feel like public lands should be managed with them, until further information on the adverse effects is available.

Other:

Why? Thank you for the chance to voice my opinion. Rick Heller 11-4-89

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside a drop in the mail (no postage necessary).

NAME: RICK E HELLER

First MI Last (Organization)
HEC 33 BOX 57

Street City State Zip Code
LETTERMAN AR 72752

Tear at perforation

Response to Comments in Letter No. B10

From: Rick E. Heller

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk. Long term mitigation measures (pages 11-52 to 11-59 of the Draft EIS) are enforced as we require.
- 2 Arkansas Regulation Establishing Water Quality Standards for Surface Waters (Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas, Department of Pollution Control and Ecology, Adopted May 26, 1967, Amended September 29, 1967; May 25, 1973; Effective September 28, 1973; September 26, 1975; September 25, 1981; November 16, 1984), Section 5. General Standards (H) Toxic Substances - states the following:

(H) Toxic Substances - Concentrations of toxicants in the receiving waters after mixing shall not exceed 0.1 of the 96-hour LC50 for the most sensitive indigenous species. If toxicants in the receiving waters after mixing are known to be persistent, cumulative and/or to exhibit synergistic effects with other waste or stream components, concentrations shall not exceed 0.01 of the 96-hour LC50 for the most sensitive indigenous species. Compounds known to be carcinogenic will be addressed on a case-by-case basis.

Our analysis presented in chapters 6-8 of the Risk Assessment and summarized in chapter 4 of the Draft EIS (pages IV-98-105) shows that "after mixing," our typical scenario applications pose less risk than allowed by this published legal standard for the State of Arkansas.
- 3 LD50 and LC50 are not the only measures of hazard reported. Results of subchronic and chronic testing are presented in appendix A (chapter III) and are summarized in chapter IV of the Draft EIS. The assumption that bioaccumulation of the products evaluated occurs (a necessary condition for interanalyzed herbicide causing subchronic or chronic synergism) is demonstrated to be invalid (page 3-27 and 3-28 of appendix A). The probability of long term environmental persistence, resulting in potential subchronic or chronic exposure, is also not supported by data presented in appendix A (page 4-27, table 4-9). In lieu of experiments, predictions based on the cited data were made. Conclusion that synergisms involving these herbicides should not pose a reasonably foreseeable risk of having a significant negative impact on human or wildlife health or their environment is presented on pages IV-22 and IV-23 of the Draft EIS.
- 4 We stated in the Draft EIS on page IV-147 that none of the missing information would prevent implementation of any alternative. Research needs are identified so as to suggest some priorities if and when research projects are undertaken. We have identified research topics where we feel it is important to learn more about environmental processes and relationships.

5 Your preference for alternative D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: I AM OPPOSED TO THE USE OF HERBICIDES
WHY? THERE HAS NOT BEEN ENOUGH RESEARCH IN REGARDS TO THE EFFECT OF THESE HERBICIDES ON OUR WILDLIFE, PARTICULARLY QUAIL.

2 Comments on Alternatives: THERE HAS TO BE SOME ALTERNATIVES TO THESE HERBICIDES,

Why?

Other:

Why?



To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: JOE B. MARTIN, MASHVILLE PUBLIC SCHOOLS
First MI Last (Organization)
Street: RT 4, BOX 58-A
City: MASHVILLE AR State: Zip Code: 71552

Tear at perforation

Response to Comments in Letter No. 811

From: Joe B. Martin

Comment No. Response

1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require. An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

2 Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-52 to II-59 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

The Risk Assessment (appendix A) details the exhaustive analysis process used to determine risk of toxic effects to wildlife. Even though a very conservative approach was used throughout the analysis to deliberately overestimate potential adverse effects, few of the herbicides were predicted to pose a significant toxic risk to animals. Distance standards for protection in those instances where risk may be significant (as with threatened, endangered, proposed and sensitive plants) are in accordance with standards established by EPA and FWS. Herbicide treatments within habitats for threatened, endangered, proposed, and sensitive species must be 100% selective (applied directly to individual target plants) and in accordance with mitigation numbers 20 and 21 (page II-57 Draft EIS), which reduces potential risk to these species to a minimal level.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

1 I DID NOT RECEIVE THIS FORM UNTIL 11.26.87

2 WHY? I DO NOT UNDERSTAND THE MANAGEMENT PLANS. I WILL GO ALONG WITH MR. DRAILING

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: Firs JAMES R. CARR
44 E. SUNDOWNER ST.
RUELEVILLE, MS. 3892

Street

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 812

From: James R. Carr

Comment No. Response

1 Comment noted.

2 You are now on our mailing list and will receive a copy of the Final EIS. If you have any questions after its receipt, please contact us.

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RESPONSE FORM

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Comments on Scientific Analysis:

Why?

Comments on Alternatives: I support AAs "H" or more intensive site assessments.

Why? Since the U.S.A. should have lots of wilderness areas, the remaining should be managed on "normal" as

Other: efficiently and effectively as

technology possible. Otherwise

cost of living and housing will go Why? and of need of almost every

C. Fisher

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Tear at perforation

Name: First MI Last (Organization)
Curtis H. Fisher
Street: 2515 S. Park St.
City: Rogers Ark. 72726
State: Zip Code

Response to Comments in Letter No. 814

From: Curtis H. Fisher

Comment No.

Response

- 1 Your preference for alternative H was included in the content analysis of all comments received.
As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.
- 2 Your preference for retaining all legal and environmentally sound tools for use in vegetation management has been included in our content analysis of all the comments received. Alternative H provides for analysis of the full range of treatments and their effects.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

This analysis is, in sure, carefully done. But I do not agree with your conclusions (to Furbush Forest). Why? National + State Forests should not be allowed the decimation of undergrowth which may be protected on privately owned land.

Comments on Alternatives: no herbicide treatment is definitely preferred. Protecting largest number of species in forests is important objective.

Why? Conservation is primary purpose of state + national forests - preservation of ecological balance needed.

Other: Allowing timber harvests to enjoy no environmental restraints is clearly not in the public interest.

Why? Economic short cuts should not be allowed by USDA Forest Service - they may benefit individual timber harvesters but not common good of protecting & preserving our environment (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization) Ryan L. Bennett Timber lot owners
Street 401 Boulder Trail
City Byronville, Mo 64708
State State Zip Code

Tear at perforation

Response to Comments in Letter No. 815

From: Ryan L. Bennett

Comment No.

Response

1 Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that the many mitigation measures listed in chapter II permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. Requirements of special importance are reduced herbicide application rates, increased use of selective application techniques rather than broadcast methods, protective equipment for workers, protection of non-target species, planning to prevent spills and accidents, buffering of water sources and private property, and required public notification.

2 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-52 to II-59 of the Draft EIS) are enforced as we require.

3 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though... However you decide to respond, please help us by making specific and meaningful comments.

- 1 Comments on Scientific Analysis: Did not include an integrated pest management alternative as presented in Region 6... 2 Why? vegetation, firewood is wasted by not being burned or is a health threat because of possible dioxins, dioxins, chlorine gas, hydrochloric acid, cyanide, phosgene gas or chlorine dioxin. 3 Water risks were not adequately analyzed water quality is jeopardized... 4 NO HERBICIDES, Alternatives A & D are the only two viable ones. Herbicide use does not contribute to the local economy as well as manual methods of vegetation management... 5 Why? area with very high unemployment. Manual labor would be returned to the local economy by using the overriding factor for not using herbicides... 6 Other: Therefore support, by reference, the NCUA modified Alternative D with reduced total acres of vegetation management... 7 Why manual methods on a low intensity basis only, primarily using manual methods with an integrated pest management approach leaning towards Alternative A... Thank you for the opportunity to say NO HERBICIDES. (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside & drop in the mail (no postage necessary).

Name: Fay Knox, Last: (Organization)
City: Deer Pt, State: AK, Zip Code: 99508

Tear at perforation

From: Fay Knox

Comment No. Response

1 Mitigation measure 3 on pages II-40 and II-41 requires that Integrated Pest Management (IPM) principles be applied to all projects. Since this mitigation measure applies to all alternatives, alternatives B, C, E, F, G, and H are all IPM alternatives. Alternative A does not allow any intervention and alternative D restricts IPM by eliminating herbicides as a possible treatment method. IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

2 Discussion of fire and potential effects from on-site residual herbicide is presented in both the Risk Assessment (appendix A, chapters 4 and 5) and in the Draft EIS (pages IV-23 through IV-25). Based on our evaluation of available data, we believe that herbicide residue in smoke presents negligible risk.

3 The worst case situation evaluated -- percolation/leaching through an Astutia sand -- is a significantly worse case than that presented by fractured sedimentary rock overlain by a layer of soil containing organic matter. Karst areas are protected from application of herbicide by mitigations presented in chapter II section #.2.c of both the Draft and Final EIS.

Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying the proposed herbicides at low rates and frequencies, in favorable weather conditions, granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-53-58), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

4 Your preference for alternative A or D was included in the content analysis of all comments received.

As a result of public comments on the Draft EIS, we have strengthened and expanded several mitigation measures especially for herbicides and mechanical to minimize possible adverse impact to humans, wildlife, and the environment and still permit accomplishing the vegetation management activities in each Forest Land and Resource Management Plan. Additionally, the amount of selective (vs. broadcast) herbicide treatments has been increased in evenage and unevenage site preparation, evenage timber stand improvement, and Forest Service road corridor maintenance.

- 5 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).
- 6 Your preference for alternative modified D was included in the content analysis of all comments received.
- 7 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Draft EIS page IV-54).

OCT. 30 '17 10:34 LMKIM-SC #1

P. 02



United States Department of the Interior
FISH AND WILDLIFE SERVICE

900 Clay Street, Room 235
Vicksburg, Mississippi 39180
January 30, 1990

Mr. John M. Alcock, Regional Forester
U.S. Department of Agriculture
Forest Service, Southern Region
1720 Peachtree Road, NW
Atlanta, Georgia 30367

Dear Mr. Alcock:

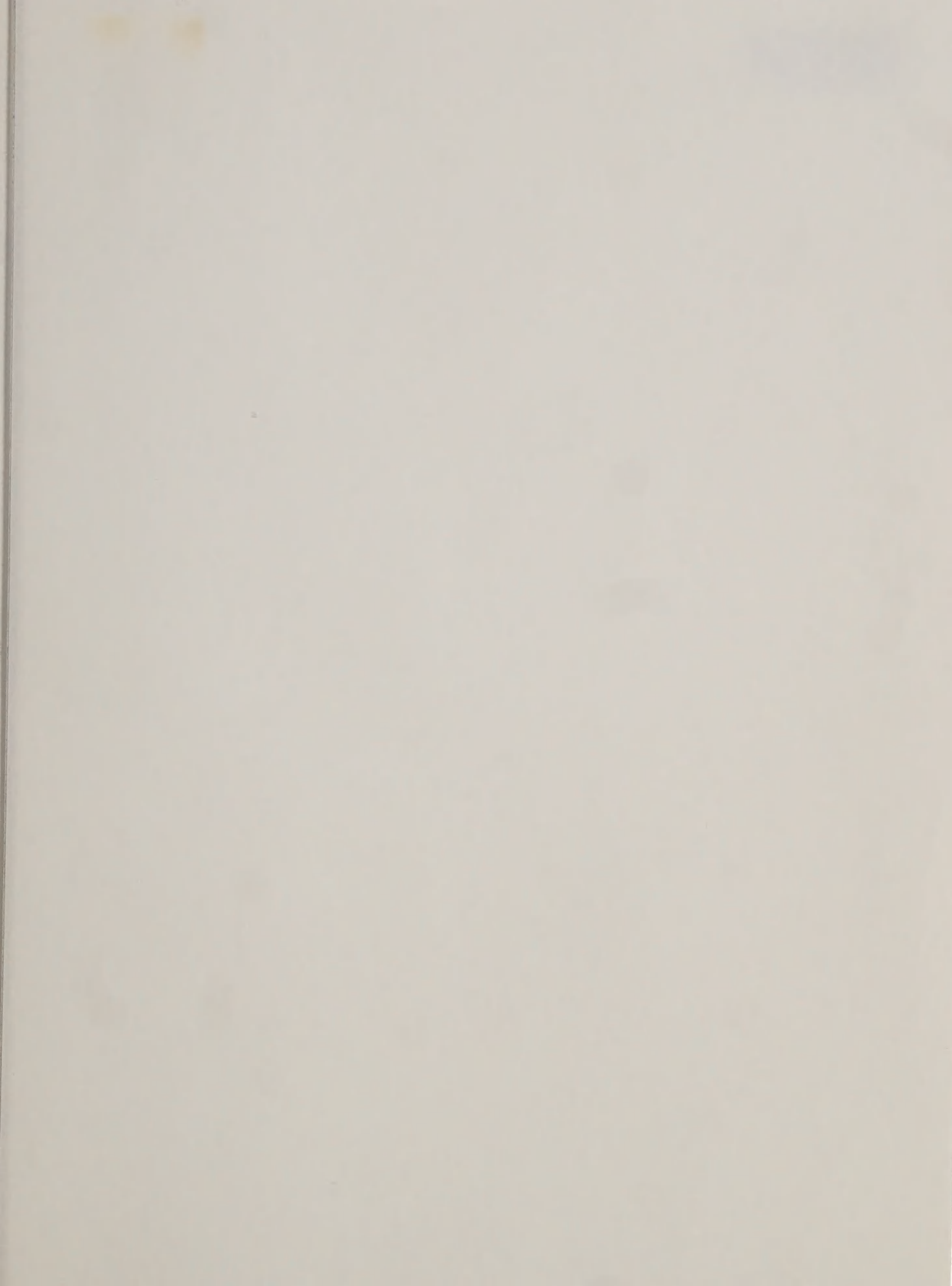
This letter further responds to your request for our review of the Draft Environmental Impact Statement (DEIS) for Vegetation Management on National Forests in the Ozark/Quachita Mountains, Arkansas and Oklahoma. The following comments pertain to your consultation requirements under section 7 of the Endangered Species Act of 1973, as amended.

Because of the general nature of the subject DEIS, the Fish and Wildlife Service does not believe there is sufficient information on specific projects and/or potential impacts with which to conduct consultation, as defined under Section 7 of the Endangered Species Act of 1973, as amended. Site-specific evaluation, as outlined in the subject DEIS, will determine the need for Section 7 consultation.

Thank you for the opportunity to comment. We look forward to reviewing site-specific biological evaluations for individual projects where endangered, threatened, or candidate species are involved.

Sincerely,

Lee A. Barclay, Ph.D.
Field Supervisor





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